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UNITED STATES-JAPAN TRADE: SEMICONDUCTORS

HEARING

BEFORE THE

SUBCOMMITTEE ON TRADE, PRODUCTIVITY, AND ECONOMIC GROWTH

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

NINETY-NINTH CONGRESS

FIRST SESSION

AUGUST 6, 1985

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UNITED STATES-JAPAN TRADE: SEMICONDUCTORS

TUESDAY, AUGUST 6, 1985

CONGRESS OF THE UNITED STATES, SUBCOMMITTEE ON TRADE, PRODUCTIVITY, AND ECONOMIC GROWTH OF THE JOINT ECONOMIC COMMITTEE,

Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in parlors A through D, Benson Memorial Center, University of Santa Clara, Santa Clara, CA, Hon. Pete Wilson (member of the subcommittee) presiding.

Present: Senator Wilson and Representative Fiedler.

Also present: John Starrels, professional staff member.

OPENING STATEMENT OF SENATOR WILSON, PRESIDING

Senator WILSON. Good afternoon, ladies and gentlemen. The hour of 2 p.m. having arrived by at least two of the clocks in this room, we will proceed.

I'm Pete Wilson, the junior Senator from California. I am pleased today to convene a meeting of the Subcommittee on Trade, Productivity, and Economic Growth of the Joint Economic Committee in order to take testimony on the state of trade relations between the United States and Japan in the area of semiconductors.

We are very pleased that Congresswoman Bobbi Fiedler has been able to join us to participate in the hearing. She has expressed great interest in this. She represents a district that contains high technology as well as agriculture, so she is vitally concerned with the state of the U.S. trade relationship, in particular with Japan.

For years when people have talked about our trade difficulties with Japan they were talking about steel and cars. It seemed just that simple. Almost everyone acknowledged that our steel plants and our car plants were old, that the workers were paid high wages, and that the technology in use was antiquated.

All of these facts were acknowledged, but still there were complaints about the invasion of Japanese steel and Japanese automobiles. Such protectionists were not looking to expand trade, they were seeking to contract it. They were not looking to protect free and fair trade, they were seeking to protect badly managed companies from their lack of foresight.

At this hearing today, while we are indeed focusing on trade problems with Japan, many things are different. The industry we are looking at, the semiconductor industry, has no smokestacks, and the air is certainly cleaner for that fact; the workers are well

paid, but not out of line with compensation paid to their counterpart workers in Japan; the equipment in use by the American semiconductor industry is state of the art.

And those who are looking out for the interests of the industry, an industry that is fostering an industrial revolution in the United States and throughout the industrialized world, are looking to protect open markets. Those who work in the semiconductor industry are among the most bullish free traders in the world.

Indeed, it was the very existence of free and open markets that inspired those who took the risks necessary to nurture a revolutionary industry. The U.S. semiconductor industry as a whole certainly wants a balance of trade achieved through greater market access in Japan, as is indicated within the four corners of the trade complaint it has filed against the Japanese Government.

Even those in the industry who urged us in the Congress to erect trade barriers to Japanese electronics products have done so in order to prod the Japanese into lowering their barriers. Only an industry as bold as the semiconductor industry would have the guts to come to the President and ask him to negotiate with the Japanese a mutual elimination of tariffs on semiconductors. Believe me, when almost any other domestic producer has come to the Congress to talk about amending the tariff schedule, it's almost invariably in the upward direction.

The specific reason that this hearing is being held today is to focus attention on the problems that our semiconductor industry is facing in trying to do business in Japan, what these problems mean to the workers in the industry, and what they mean to the future of the industry itself.

The Prime Minister of Japan, Mr. Nakasone, announced 1 week ago the final part of Japan's action plan to balance its trade surpluses. There are some encouraging signs, such as proposed changes to the certification procedures for foreign products. They will specifically agree to the loosening of some 88 such procedures, the abandonment or the lowering of tariffs on almost 2,000 separate items.

Indeed, Japan has made some helpful changes in the past few years in other areas. There has been a slight loosening of quotas on beef and citrus products. However, these actions have in turn been countered by the simultaneous protection of new and hidden tariff/nontariff barriers.

In Washington, where credibility is a valued commodity, but not enjoyed widely, Japanese trade pronouncements are not viewed as credible because past announcements—some five or six similar announcements since 1981—have resulted in nothing but greater trade imbalances. Some may blame this on the strength of the dollar, which is indeed a significant part of the problem as far as United States-Japan trade is concerned, but the strength of the dollar certainly does not explain entirely the trade surpluses that Japan is generating with almost every non-OPEC country.

Before we proceed with this hearing I want to note that one company which was invited to appear here today is not represented, and that is Hitachi. There will be some discussion today I am sure about what is now the infamous Hitachi "10-percent memorandum." This memo instructed distributors of Hitachi EPROMS to

quote whatever price was needed to undercut the price of competitors' chips by 10 percent.

At this point in the record I will insert, without objection, a copy of the memorandum and a copy of the letter that I sent to the president of Hitachi America, Ltd., asking for information on this matter, including all corporate records relating to the memorandum, and a copy of the response that I have received to my letter. I also will insert in the record a copy of my followup letter reiterating my request for full documentation and an invitation to testify at today's hearing.

I want to state now that in a meeting that I held in my office with Mr. Toshi Kitamura, executive managing director and group executive of international operations group of Hitachi, Ltd.—the parent of Hitachi America—I was assured that Hitachi will testify on this matter before a subsequent hearing to be held in Washington later this fall by this subcommittee.

Finally, I want to insert in the record a copy of a letter that I sent to the Attorney General, along with my colleagues Senator Danforth of Missouri, who is the chairman of the Senate Finance Committee's Subcommittee on Trade, Senator Boren of Oklahoma, and Senator Lautenberg of New Jersey, in which we asked for an investigation of Hitachi for alleged predatory pricing in violation of U.S. antitrust laws.

[The documents referred to follow:]

UNBEATABLE

PRICE LEADERSHIP

WE'RE NUMBER 1

40% BELOW INTEL AND AMD

15% - 20% BELOW OTHER JAPANESE SUPPLIERS

PRICE CROSSOVER

128K - 1.6 x THE 64K

256K - 2 x THE 128K

COST/BIT ATTRITION

CMOS PREMIUM SLASHED

27C64 - 25% OVER NMOS

AND HEADING FOR PARITY

WIN WITH THE 10% RULE

HN4827128, HN27256

FIND AMD AND INTEL SOCKETS....

QUOTE 10% BELOW THEIR PRICE...

IF THEY REQUOTE,

GO 10% AGAIN....

DON'T QUIT TILL YOU WIN!

HN27C64

WIN FUJITSU BUSINESS,

USE THE 10% RULE

25% DISTI PROFIT MARGIN

GUARANTEED

HN4827128, HN27256, HN27C64

HITACHI EPROMS

United States Senate

WASHINGTON, D.C. 20510

June 17, 1985

Mr. Tsuneo Tanaka
President
Hitachi America Ltd.
5050 Prospect Avenue
Tarrytown, New York 10591

Dear Mr. Tanaka:

As you know, there have been recent press reports that Hitachi, Ltd. has engaged in questionable pricing practices in the United States when offering for sale certain semiconductors. As a member of the Joint Economic Committee of the United States Congress, I would appreciate receiving from you a response to the allegations contained in the enclosed articles from the Wall Street Journal and the New York Times, as well as any othe. comments that you care to make with regard to your pricing practices. I would also appreciate your providing to the Committee any and all corporate documentation relevant to this matter, including the original memo cited in the articles, and an indication of when it was issued and when it was withdrawn.

I would appreciate your supplying the requested information at your earliest convenience. I look forward to your response.

Sincerely,

Pete Wilson

PETE WILSON

Enclosures

Microchip Firms In U.S. Yielding A Major Market

Basic Memory Circuit Field Is Conceded to Japanese Amid Collapses in Prices

By Michael W. Miller
Staff Reporter of The Wall Street Journal

U.S. semiconductor makers are retreating from the largest segment of the world's microchip market: the circuits that store computer memory.

Faced with plunging prices and a glut of products from Japanese rivals, many U.S. companies are finding it no longer profitable to make basic memory chips. They are cutting back plans for this market and concentrating efforts on more advanced technologies, like microchips that process rather than store information, and other specialized chips. The Japanese also have begun taking aggressive price stances in those markets.

For U.S. producers, the category affected most is called dynamic random-access memory—the essential, no-frills device that last year generated an estimated $3 billion in revenue, or about 13% of all semiconductor sales. In the category's next product generation, the so-called 256K D-RAMs, Japanese makers are about a year ahead of the few U.S. companies still in the market. Some analysts predict the generation after that could be all Japanese.

'Abdicating Market'

"It looks to me as if most U.S. semiconductor companies are abdicating from the dynamic RAM market," says John Lazio, an analyst at Hambrecht & Quist, a San Francisco investment firm.

Last week, for instance, National Semiconductor Corp. disclosed that it has shelved its longtime plans to produce a 256K D-RAM chip, which stores 256,000 characters. After a year of making sample products, National Semiconductor said it won't produce the chip "until we can see the ability to make a profit with it."

Many other big U.S. chip makers say they won't do much more than tiptoe into the 256K D-RAM market. Intel Corp. and Advanced Micro Devices, for instance, say they'll make only specialized versions of the product in small quantities. Only Texas Instruments Inc. will offer serious competition in the next D-RAM markets, analysts predict.

U.S. semiconductor industry officials contend that moving away from cheap products like D-RAMs—a commodity that doesn't vary much from one maker to another—won't hamper their overall efforts to stay competitive. They say the shift will let them move ahead faster with the more advanced technologies.

Bitterness in Conceding Field

But U.S. industry officials concede that churning out D-RAMs in high volume has always been a crucial way for them to develop and refine new manufacturing technology. Some express bitterness about conceding that or any big market to their archrivals in Japan.

"It's a very important sector of the semiconductor market, and the fact that the U.S. is not a competitive producer (in that market) is something we should be concerned about," argues Jack Carsten, a senior vice president of Intel Corp., Santa Clara, Calif. "Although the thing is considered a commodity, it's a very high-technology, strategic commodity."

The Japanese march into the memory-chip field has been striking. When the market for D-RAMs began blossoming about five years ago, the Japanese targeted the product as a top priority. By 1981, Japanese makers were grabbing two-thirds of the market for 64K D-RAMs, though their share has since dropped to about half, as U.S. companies hustled to catch up.

Meanwhile, analysts say, Japanese concerns have captured a year's lead on the next generation of D-RAMs, which store 256,000 characters. Such big Japanese electronics companies as NEC Corp., Fujitsu Ltd. and Hitachi Ltd. have reportedly been shipping three or four million of the 256K circuits monthly since early this year, and now hold about 90% of the world market for that circuit. In the U.S., only Texas Instruments is making the product in comparable quantities, analysts say.

For the product generation after that, a "megabit" D-RAM chip with a million characters of memory, the U.S.'s role will dwindle even further, industry professionals predict.

"The Japanese are further ahead on the megabit D-RAM than they ever have been" with previous such products, says Mr. Lazio of Hambrecht & Quist. "I doubt if Americans are going to compete there," agrees Jack Beedle, an analyst at In-Stat Inc., a Scottsdale, Ariz., market research firm. "They're going to have to take a hard look at what's important: profit or market share."

Behind the U.S.'s retrenchment lies one of the electronics industry's most peculiar price collapses ever. Last year, for example, early versions of the 256K-character chips cost between $25 and $30, though predictions were that the price would drop once those chips were being mass produced. "A lot of business plans were formulated then, based on estimates of an average selling price in the $10 to $15 range this year," recalls Mr. Beedle.

But massive stockpiling by over-confident chip customers changed that. By last fall, as customer inventories began becoming bloated, the price already was down to about $16. At the start of 1985, the parts were fetching about $8. Prices are still cheaper today: one Sunnyvale, Calif., grocery store is selling 256,000-character D-RAMs for $3.99.

Among the hardest hit victims of the current semiconductor slump have been those that specialize in D-RAMs, such as Micron Technology Inc. and United Technologies' Mostek unit. In February, Micron slashed its employment in half, dismissing about 625 employees. Mostek has dismissed 3,000 workers so far this year, paring its employment to 6,300.

Japanese Chip Dumping Cited

By SUSAN CHIRA

Special to The New York Times

TOKYO, June 4 — At least one Japanese company is "dumping" semiconductors in the United States market, a high-ranking American trade official charged today.

Lionel Olmer, Under Secretary of Commerce for International Trade, said he had evidence that one manufacturer, later identified as Hitachi Ltd., was cutting the price of a specialized type of memory chip below a level where the manufacturer could make a profit.

"By any reasonable standard, the manufacturer is not making any money, and that is dumping," Mr. Olmer said.

Under United States trade laws, adapted from a general provision in the General Agreement on Tariffs and Trade, it is illegal for a foreign company to sell products in the United States for below the cost of production if that selling injures American producers.

Mr. Olmer's charges appeared to support the claims of United States-based semiconductor makers, which have charged recently that Japanese electronics companies were taking big losses in their semiconductor operations in an effort to dominate the American market.

Mr. Olmer did not name a specific company today. But later, an aide held up a document indicating that Hitachi was the company involved.

Another source familiar with the issue provided a copy of what seemed to be the same document, on condition that he not be identified. The document appeared to be addressed to Hitachi distributors and salesmen, although it was without a company letterhead and could not be verified as genuine.

It was not immediately apparent how the Commerce Department had obtained the document, but it bore an imprint bearing the name "Intel Denver." The Intel Corporation, one of Hitachi's chief American competitors, has a sales office in Denver.

The document reads in part: "Win with the 10 percent rule. Find AMD and Intel sockets. Quote 10 percent below their price . . . If they requote, go 10 percent again . . . Don't quit til you win!"

AMD stands for Advanced Micro Devices, another American competitor of Hitachi. The memo does not provide proof of dumping because it is unclear what the profit margin is.

In an apparent reference to Hitachi distributors, who sell the company's chips to equipment manufacturers, the document also says, "25 percent disti profit margin guaranteed."

[In New York, Hitachi America Ltd. acknowledged that the memorandum had been sent to its distributors from the company's San Jose, Calif., office. But in a statement Hitachi insisted that "the memorandum does not reflect company policy, was not approved by the company's management, and should be disregarded." Intel officials expressed disbelief at Hitachi's statement, charging that the document disclosed a concerted, illegal effort to corner a key sector of the semiconductor market.]

The chips in question are called Erasable-Programmable Read Only Memories, or Eprom's. They are used to store programs commonly run on computer systems. Unlike other Read Only Memories, or Rom's, the program stored in an Eprom can be changed. Intel and Hitachi market interchangeable chips to users of Eprom's.

In a breakfast address today to Japanese politicians and business executives, Mr. Olmer said he was worried about rising trade frictions in the semiconductor market and Japanese trade practices. He said: "We are going to lay before MITI some evidence that the price of Eprom's has fallen far more precipitously than the normal curves in the last 15 years. The price has reached a point where by any reasonable standard the manufacturer is not making any money, and that is dumping." MITI is Japan's Ministry of International Trade and Industry.

The source who provided a copy of the document also displayed a chart plotting the price of Eprom chips in the last year. Industry analysts, he said, believe that Eprom chip prices have fallen much faster in the past year than is usual for new semiconductor products.

For example, he said, a year ago Eprom's sold for about $20 apiece. Now, he said, Hitachi is offering them for $4.50 each. Normally, he said, they would sell for about $8. This analysis, as well as the document, led the United States to conclude that Hitachi has dropped the price too quickly to be making a profit, he said.

Intel's Charges

The president of the Intel Corporation, one of the nation's largest semiconductor makers, charged yesterday that the Hitachi memorandum was "evidence of Hitachi's intent to get the entirety of the Eprom market without any regard for economic considerations."

The executive, Andrew S. Grove, said that since the memorandum was distributed to Hitachi distributors there have been numerous efforts by Hitachi to steal Intel accounts. "We have had incidences om which Hitachi has gone to customers of ours who have placed firm orders and done just what the memo lays out: they offered even further price cuts," he said.

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10591-4698

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CABLE ADDRESS
HITACHY

July 1, 1985

Honorable Pete Wilson
United States Senator
720 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Wilson:

Thank you for your letter of June 17, 1985. I am familiar with the Wall Street Journal and New York Times articles enclosed with your letter and with the allegations that have been made in recent weeks regarding Hitachi's pricing practices with respect to certain semiconductor products. In response to your letter, I would like to set forth Hitachi's position on the subjects of these press reports and other allegations. I am also aware that you and other members of Congress have asked the Department of Justice and the office of the U.S. Trade Representative to consider these matters, and I am therefore providing copies of this response to those agencies and to the rest of our San Jose Congressional delegation.

Hitachi America, Ltd. ("HAL") is a wholly owned subsidiary of Hitachi, Ltd. ("Hitachi"), Tokyo, Japan. Hitachi has long been a leader in the semiconductor manufacturing field. I do not think it is an exaggeration to say that

Hitachi is recognized by many objective and knowledgeable observers as one of the world leaders -- if not the world leader -- in semiconductor product quality and manufacturing efficiency. Hitachi is a strong competitor in the world market for these products and seeks business opportunities and sales wherever it is free to do so, including the United States, just as American companies do in Japan and elsewhere throughout the world. Hitachi has maintained a semiconductor assembly facility in Texas for many years and has announced plans to invest approximately $100 million in a full-scale silicon wafer fabrication plant in the same area over the next few years. Through its Semiconductor and I.C. Sales and Service Division, located in San Jose, California, HAL markets Hitachi's semiconductor products throughout the United States. We are convinced that these investments will be profitable and that Hitachi's presence in this market benefits the U.S. electronics industry and the consuming public.

The semiconductor business has always been intensely competitive in many respects, perhaps uniquely so. Fabrication plants are extremely expensive and the technology involved, as well as the types and models of the products being sold, rapidly becomes obsolete. As production capacity in a particular product "ramps up", per unit cost falls significantly over a short period of time. With many able competitors in the field, prices tend to follow costs in a well-known

downward spiral. Of course, supply and demand are the key factors in semiconductor pricing, but prices usually go down a so-called "learning-curve" that requires constant (downward) price adjustments. This same pricing pattern exists in Japan, where average prices are even lower than in the United States. From what we can see in the marketplace, HAL's average U.S. prices have traditionally been, and continue to be, higher than our U.S.-based competitors.

No company, whether American or Japanese, is, or should be, guaranteed profits or a share of the U.S. or Japanese markets. HAL is proud of the fact that it has worked patiently for many years to achieve its relatively modest position in the U.S. semiconductor market, despite the barriers that it has encountered. These barriers are not limited to those faced by importers generally. For example, the top U.S. semiconductor distributors have always refused to stock Hitachi products (and, we understand, the products of other Japanese-owned companies), even when those products are manufactured or assembled in the United States. We believe that these distributors refuse to deal with Japanese-owned firms because they are afraid that the large U.S.-based manufacturers will terminate any major distributor that carries a Japanese line. This practice has excluded, and still does exclude, HAL and other semiconductor importers from an important distribution channel in this country. As a result, the percentage of HAL's

total sales that are made through distributors is only about one-half of the industry average.

Although it is our understanding that vigorous competition -- including price competition -- is not just tolerated but is positively encouraged by the U.S. antitrust laws, HAL, and other importers, must operate under another very important economic regulation -- the U.S. antidumping law. Pursuant to this law, HAL must do its best to keep its U.S. prices equal to -- or above -- Hitachi's Japanese home-market prices and above Hitachi's "cost of production," as that term is defined in the antidumping law. While HAL takes every reasonable precaution to see that its pricing is in full compliance with all applicable U.S. laws and regulations, our U.S.-based competitors are not required to -- and plainly do not -- observe the same restraints on their pricing for U.S. origin merchandise, resulting in an obvious anticompetitive "double-standard" which I will take up again below.

This background is essential to an understanding of the subject addressed by your letter. Until late last year the U.S. semiconductor industry was booming. Demand was high and there was an actual shortage of most parts so that many customers of all suppliers -- foreign and domestic -- were on allocation. As the Wall Street Journal article enclosed with your letter correctly states, "over-confident chip customers"

were engaged in "massive stockpiling". All semiconductor manufacturers were making large profits. AMD was the industry's fastest growing company last year with sales up 85% to about $1 billion. In 1984, as in years past, U.S. firms such as AMD celebrated with million-dollar Christmas parties.

In the fall of last year, however, the demand for semiconductor products, which is directly dependent upon the strength of the computer market, softened for the first time in many years. The customers with bloated inventories stopped buying. While even in "normal" times semiconductor prices are highly volatile (but inexorably follow costs downward on the "learning curve"), early this year the dramatic decrease in demand caused prices of all semiconductor products, in both the Japanese and American markets, to go into what has been called a "free-fall." HAL was not a leader in this price downturn, but when it saw its market position begin to erode, it determined not to abandon a market that it had worked so hard to develop. In the past few months, therefore, HAL has competed for business on the basis of price, where necessary, within the constraints mentioned above.

In the deteriorating market of the past six months, our U.S.-based competitors appear to have led the downward price spiral in memory products. Electronic Buyer's News for June 17, 1985, quoted a "distribution industry executive" as saying that "if anyone, AMD and Intel are the most aggressive

in dropping prices right now." The same article quoted industry analyst Tom Kurlak, of Merrill Lynch, Pierce, Fenner & Smith, Inc., as describing AMD as "more aggressive in price cutting than Intel or Seeq Technology, Inc. . . . These three American suppliers have been the topic of industry speculation as price cutters." Our own experience bears this out.

The double-standard mentioned above is starkly demonstrated by the antidumping petition filed last week by Micron Technology, Inc., one of the largest U.S.-based manufacturers of 64 kilobit dynamic random access memory devices ("64K DRAMS"). In its petition, Micron asserts that last October the price of a certain type of 64K DRAM in the Japanese market was approximately $2.30 each, with prices in the U.S. market "at or above this level." By its own admission, Micron then unilaterally announced a price cut for long-term, volume orders of more than 15%, to $1.95, for the same 64K DRAM (and even lower prices for other types of 64K DRAMS). This price cut was not in response to any price initiative by Hitachi or any other Japanese-owned company, but was designed to allow Micron "and other U.S. manufacturers who followed these prices" to lock-up the U.S. market in the coming months of slack demand and at the same time to increase their share of the Japanese 64K DRAM market. (Micron Petition, p. 11).

Of course, all of Micron's competitors, Japanese, American (and Korean), followed Micron's dramatic price cut which, in a market where demand was disappearing, guaranteed even further price erosion. Now, having initiated the price decline, Micron seeks protection under the U.S. antidumping law and has the temerity to charge Hitachi and other Japanese manufacturers with "predatory pricing." (Micron Petition, p. 25). Micron's allegations will be answered in due course in the appropriate forum, but I think it is instructive for you, Senator, to see a plain case of the double standard operating in international trade; apparently only American companies are allowed to compete on the basis of price and Japanese companies who do so, even in their home market, are acting at their peril under U.S. law.

There is, in effect, a single world market for commodity items such as 64K DRAMS. There are no tariffs on these products in either the U.S. or Japan. Transportation costs are minimal. Most U.S.-owned manufacturers have established fabrication or assembly plants offshore, not only in Japan, but in Maylasia, Singapore, and elsewhere. (As noted above, Hitachi is reversing this flow of investment by building facilities and creating jobs in the United States.) Artificial price misalignments which result in lower prices overseas (the reverse cannot exist for any period because of the U.S. anti-dumping law) will inevitably result in U.S. customers going

abroad to fill their needs. These customers either become their own importers, bypassing importers such as HAL (which employ a large number of sales and marketing people here), or by manufacturing their computers or other electronic products (or subassemblies) overseas to take advantage of the lower semiconductor prices there. Neither of these effects is beneficial to the U.S. economy or to the U.S. consumer.

Such an artificial price misalignment also creates an opportunity for so-called "gray marketeers," nonfranchised brokers or distributors who buy Hitachi (and other quality) chips wherever they can find them at low prices and re-sell them at a substantial discount from the prevailing market price here in the U.S., driving prices down and creating the impression that Hitachi (and other quality manufacturers) somehow are responsible.

With specific regard to the subject of the New York Times article enclosed with your letter, i.e., the so-called Hitachi "memorandum" and the allegation that Hitachi has been engaged in sales below cost and/or "predatory pricing," I can add very little to what I have already said publicly. The allegation is demonstrably false.

The Hitachi "memorandum" (actually a sales flier and some viewgraphs given to HAL distributors) was given wide distribution by our U.S.-based competitors during the orchestrated public relations blitz that surrounded the recent filing of the

S.I.A.'s §301 petition, and by others -- both in and out of the U.S. Government -- who seized upon the Hitachi documents as an attention-getting device. Such inflammatory rhetoric was unfortunate but the fact is that the semiconductor industry is in a severe slump and someone, other than the customers who simply are not buying, had to be blamed. The Hitachi sales flier presented a perfect opportunity.

This sales material was prepared at the end of February, 1985, by three lower-level product marketing people (all non-Japanese, by the way) involved in marketing HAL's EPROMs (eraseable, programmable, read only memory devices). The documents related only to EPROMs (by volume only about 6% of HAL's semiconductor sales), and suggested (not instructed) that distributors could keep cutting prices on Hitachi EPROMs by 10% until the order was "won." This so-called "10% Rule" was conceived and was distributed outside of HAL without the knowledge, let alone the approval, of HAL's top management.

Within a week after management learned that this material had been sent to distributors it was decided that an effort must be made to correct and clarify any misunderstanding as to Hitachi's pricing policy that might have been created by the sales flier and viewgraphs in question. The flier was later specifically withdrawn, not only because, taken literally, it did not reflect HAL's specific sales policy and traditional attitude toward pricing, but because it was

obviously subject to being misused by those interested only in blaming the market downturn on Japanese-owned firms and in exacerbating the unfortunate trade friction that exists between the U.S. and Japan at the present time. The three marketing people who prepared the sales material were simply trying to find some way to motivate Hitachi distributors to sell HAL's EPROMs in a rapidly deteriorating market and chose this language to get the distributors' attention. While the sales flier and viewgraphs should not have been circulated, and although I have already publicly expressed regret for any misunderstanding they have caused, taken in context they are easily seen to be nothing more than sales "hype" of the same sort that sales people, at least in this business, are used to seeing every day.

If this flier had been sent out by one of our U.S.-based competitors, no-one in the industry would have paid any attention to it.*/ When dealers are exhorted to "murder the competition" or "beat all competitive prices no matter what the

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*/In fact, until Intel, AMD and Mr. Lionel Olmer catapulted it into the headlines, the Hitachi sales material in question appears even to have escaped the attention of the distributors to whom it was directed. The Electronic Buyer's News of June 10, 1985, cites a poll of Hitachi distributors and reports that "only one distributor contacted last week said it had received a memorandum from Hitachi America, Ltd. instructing it to undercut Hitachi's competitors' EPROM and EEPROM prices by 10%. A handful of distributors surveyed indicated that they had never received such a notice."

cost", only the most naive would think that such statements literally reflect corporate policy.

If the so-called "10% Rule" had actually been HAL's policy, one would expect to see a dramatic increase in HAL EPROM sales in the months following its circulation. In fact, however, HAL's share of U.S. EPROM sales today is no higher (and is, in fact, lower) than it was before the end of 1984, in the 5% range! Intel, AMD and Texas Instruments continue to share about 60% of EPROM sales among them. I respectfully suggest that these facts demonstrate the frivolous nature of these allegations of "predatory pricing." The statement by Intel's President, quoted in the New York Times article you enclosed, to the effect that the Hitachi filer is "evidence of Hitachi's intent to get the entirety of the EPROM market without any regard for economic considerations" is the same sort of tongue-in-cheek hyperbole as the Hitachi sales material itself.

I hope, Senator, that I have been able to respond adequately to your inquiry. As I am sure you understand, because litigation has been threatened against Hitachi based upon these allegations, because the Micron antidumping petition is now before the Commerce Department and the International Trade Commission, and because Hitachi -- like other companies -- does not publicly disclose specifics regarding its pricing policies for competitive reasons, I have not been able to go

into more detail in this response. However, if we can assist you further, please ask your staff to contact our Washington counsel, Mr. Carl W. Schwarz, at (202) 289-4520.

Sincerely yours,

Tsuneo Tanaka

cc: Honorable Edwin Meese, III
Attorney General of the United States
Department of Justice
Washington, D.C. 20530

Honorable Clayton Yeutter
United States Trade Representative
600 17th Street, N.W.
Washington, D.C. 20506

Honorable Alan Cranston
United States Senator
112 Hart Senate Office Building
Washington, D.C. 20510

Honorable Norman Y. Mineta
United States Congressman
2350 Rayburn House Office Building
Washington, D.C. 20515

Honorable Edward Zschau
United States Congressman
429 Cannon House Office Building
Washington, D.C. 20515

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JOINT ECONOMIC COMMITTEE
(CREATED PURSUANT TO SEC. 5(a) OF PUBLIC LAW 304, 79TH CONGRESS)
Washington, DC 20510

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ROBERT J. TOSTERUD
DEPUTY DIRECTOR

July 19, 1985

Mr. Tsuneo Tanaka
President
Hitachi America, Ltd.
50 Prospect Avenue
Tarrytown, New York 10591-4698

Dear Mr. Tanaka:

I want to thank you for your answer to my letter of June 17. Your response, while comprehensive in tone, did not include the materials which I had requested. I trust that you can appreciate the need for documentation of the events surrounding the "ten percent memo" that you outlined in your letter.

Reiterating the request of my earlier letter, I would appreciate your supplying me, before August 1, 1985, with copies of all materials either generated by Hitachi America, Ltd., or its employees, or within your possession that relate to the issuance of the "ten percent memo" and the decision to retract it. These materials are needed in order that preparation may be made for a hearing of the Joint Economic Committee, Subcommittee on Trade, Productivity, and Economic Growth, that I will be chairing on August 6, 1985. I also want to extend to you, or your designee, an invitation to testify at the hearing, entitled Japanese Trade Practices in the Semiconductor Industry and Their Impact.

If you have any questions about the particulars of the hearing, you may contact Ira H. Goldman of my staff at (202) 224-5422.

I look forward to your response in the very near future.

Sincerely,

Pete Wilson

PETE WILSON

PETE WILSON

United States Senate

WASHINGTON, D.C. 20510

June 6, 1985

The Honorable Edwin Meese III
Attorney General
Department of Justice
Washington, D.C. 20530:

Dear Mr. Attorney General:

According to press reports, significant evidence exists that Hitachi Ltd., a Japan-based company, has engaged in predatory pricing of computer chips that it sells in the United States. While this is just the most recent allegation of conduct by Japanese electronics manufacturers that violates international trade agreements, we believe that this instance presents a possible violation of U.S. antitrust laws. We therefore ask that you direct the Antitrust Division of the Department of Justice to conduct an investigation of the allegations that have been made.

It is important that while the United States strives to maintain and expand free and open trade, we similarly insist that our trading partners abide by both international and U.S. legal proscriptions against unfair and predatory conduct. Clearly, it is not enough that we remonstrate against violations, and it is certainly unreasonable to expect our domestic industries to meet these illegal activities, sometimes conducted collusively, without assistance from appropriate government agencies. We believe that the allegations of predatory pricing may prove to be just one of many cases that are in need of thorough Justice Department investigation.

We would appreciate your consideration of our request and would be happy to meet with you to discuss it at greater length.

Sincerely,

David L. Boren

Pete Wilson

John C. Danforth

Frank R. Lautenberg

U.S. Department of Justice

Antitrust Division

Office of the Assistant Attorney General *Washington, D.C. 20530*

AUG

Honorable Pete Wilson
United States Senate
Washington, D.C. 20510

Dear Senator Wilson:

This letter responds to the letter of June 6, 1985, to the Attorney General signed by you and three other Senators concerning allegations that Hitachi has engaged in predatory conduct in the semiconductor industry.

The Antitrust Division has opened an investigation into possible predatory conduct by Hitachi, and is actively pursuing it. While predation is often quite difficult to establish, the Division takes seriously any credible allegation of predatory behavior in U.S. markets and is fully prepared to proceed against such conduct when warranted by the facts.

Thank you for your interest in this matter and in the enforcement of the antitrust laws.

Sincerely,

Charles F. Rule
Acting Assistant Attorney General
Antitrust Division

Senator WILSON. I can announce today that the Antitrust Division of the Department of Justice, having studied the matter, has determined that an investigation is in order and it is now underway.

We are privileged to have with us today some very distinguished witnesses whose testimony we will look to to provide answers to the questions that we have raised. Before calling upon them, I do wish to recognize my colleague, Congresswoman Fiedler, for a brief opening statement.

OPENING STATEMENT OF REPRESENTATIVE FIEDLER

Representative FIEDLER. Thank you, Senator Wilson.

I want to tell you how pleased I am to be able to be with you today. I am a member of the Joint Economic Committee and obviously deeply concerned about the unfair trade practices which your industry has run into.

About 2 years ago I was invited to Japan and met with Prime Minister Nakasone. At that time we discussed the issue of the citrus and beef trade and began the preliminary steps toward our citrus and beef negotiations. Regrettably, the U.S. Trade Representative encountered the same tactics you have been encountering, and negotiations broke down.

Ultimately, I put together a letter signed by members of the House Republican leadership in Washington, and we told the Japanese Government that if they were not willing to negotiate in a reasonable fashion, then we would not do anything to obstruct the passage of a unitary tax law that had Japanese companies very worried.

But unfortunately, in the past few years we have not successfully resolved the communication problem between the Japanese Government and the U.S. representatives in that their progress has been slow, it has been without significant commitment. And were it not for the efforts of Senator Pete Wilson and also our new Trade Representative—and I might add that I'm extremely impressed with Ambassador Yeutter and I think you should feel very hopeful about his approach—we would never be able to get the message across. And we look forward to hearing the balance of the testimony that you're going to present today.

One other point, if I may. Unfortunately, I have a longstanding commitment in Bakersfield that requires me to leave early, but I will look forward to reading the balance of the testimony that I might miss. Thank you.

Senator WILSON. Thank you very much, Congresswoman Fiedler.

Now, we have two panels. The first consists of Mr. Charles E. Sporck, the president and chief executive officer of National Semiconductor Corp., who is nearest the far wall. And next to him is Mr. George M. Scalise, the senior vice president, Advanced Micro Devices, testifying on behalf of the Semiconductor Industry Association.

Charles Sporck is, as noted, the president and chief executive officer and a director of National Semiconductor Corp., which is headquartered in Santa Clara, CA. Of its $1.8 billion in sales in 1984, $1.1 billion was in semiconductors, making National Semicon-

ductor America's third-largest merchant semiconductor company. Charles Sporck is a founding member and current director of the Semiconductor Industry Association.

Mr. Sporck, thank you for being with us. We have your written testimony, but please feel free to take what time you need.

STATEMENT OF CHARLES E. SPORCK, PRESIDENT AND CHIEF EXECUTIVE OFFICER, NATIONAL SEMICONDUCTOR CORP., ON BEHALF OF THE SEMICONDUCTOR INDUSTRY ASSOCIATION [SIA]

Mr. SPORCK. Thank you, Senator.

I am here on behalf of the Semiconductor Industry Association [SIA], who represents 48 U.S. manufacturers of semiconductors. There is a formal statement; I will cover only certain of the points in that statement.

I'd like to start by focusing on two results of trade problems. The first one is the erosion of our industrial base here in the United States; and second, the long-term effect on the semiconductor industry from our trading partner's trading practices. First, though, I would like to cover some background on the semiconductor industry.

The semiconductor industry is a $25 billion industry worldwide, growing, it is estimated in the next few years, to $100 billion. The semiconductor IC's are the building blocks for the electronics industry or the electronics revolution, as Senator Pete Wilson mentioned earlier. They are critical for the success of the application of that electronic industry on a wide variety of areas in our economy, be it solving pollution problems in automobiles, advancing the state of the art for instrumentation in medicine, or indeed contributing to the high-tech portion on the base of our national defense.

Probably more importantly, however, in my mind anyway, is the contribution the industry makes to the improvement of all other industries. Clearly, our objective, industry by industry, is to improve our productivity, our efficiency. And the application of these semiconductor building blocks is a prime requirement to successfully pull that objective off.

The importance of this industry has drawn the attention of our trading partners, especially. In part because of this competition the semiconductor industry is currently in the deepest recession in my experience of 20 years in the business.

The semiconductor industry is a very capital-intense industry and it's capital intensive in a growing manner. An example of that is the following: In 1975, the merchant manufacturers in the United States spent approximately 6.1 percent of their sales on capital investment; in 1984 that investment rate had grown to 20.4 percent.

The industry is also very R&D intensive. Another example: Between 1981 and 1984 the general industrial corporations in the United States spent approximately 2.5 percent on R&D expenditures; the semiconductor industry spent better than 8 percent during those same years, a factor of three times. More pointedly, National Semiconductor during that same time frame spent be-

tween 11 and 12 percent of our semiconductor sales on R&D investment.

To put that in perspective, during the past 5 fiscal years National spent $683 million on R&D while obtaining $135 million in after-tax profits. So we have an industry here which is increasingly capital intensive, increasingly R&D intensive, while at the same time it is facing severe foreign competition.

Given this background, I would like to address the erosion of the U.S. industrial base. I believe that this erosion is much more severe than is broadly recognized. It's not broadly recognized for two reasons in my mind. One is that during the time that manufacturing has been eroding, service industries have been growing quite significantly. And one side comment there: When you transfer a job from a manufacturing kind of pursuit to a service pursuit, by and large, you go from a high-skill, high-paying job to a low-skill, low-paying job; so you don't get a reasonable trade from the standpoint of the standard of living.

The second issue that influences this hidden erosion is the rate at which manufacturing organizations in this country are reducing their manufacturing pursuit. Many companies are making economic decisions to source their products offshore, they are having their product being built by offshore manufacturing. The company doesn't disappear, it still sells radios, or what-have-you, but they don't manufacture them anymore.

This is especially punishing for the semiconductor industry because when that product is sourced in Japan, we lose it from the U.S. semiconductor market because the Japanese basically do not buy American products given a choice.

The symptoms of this erosion are clearly plain to see. I'll give you some examples here. In 1975 we ran a slight trade surplus. By 1980 we ran a deficit of more than $36 billion. In 1984, last year, it grew to $130 billion. And I gather that this year the estimate is somewhere in the area of $150 billion negative trade balance for the United States.

Another example is what is happening to our manufacturing capacity utilization. If you look at the various cycles of upturn and downturn over the past many cycles, each upturn has resulted in a manufacturing capacity utilization lower than the prior cycle. And in turn, each downturn of that cycle has resulted in a lower manufacturing capacity utilization than each prior cycle.

There is a similar situation in terms of unemployment. Each one of the upturns in our cycles of recession and boom periods has resulted in higher unemployment being considered normal. Indeed, right now, I think that by and large we have adjusted to recognizing 7.2 percent as being normal, even though our economy is fairly strong. There was a time not too many years ago when that norm was considered to be reasonable at 4 percent during a normal economic environment.

Further, the trade deficit with Japan is approaching $50 billion this year. Probably worse is the profile of that trade. Basically, we trade raw materials for manufactured products from Japan. Indeed, I believe that the ratio between manufacturing products coming in from Japan and manufacturing products being exported from the United States to Japan is in the area of 4 to 1.

Now, why are these issues occurring? Certainly, many believe that the deficits, the high interest rates, the strength of the dollar is the answer to our problem. And certainly we all have to admit that the strong dollar doesn't improve our trading ability.

However, what bothers me is that over the years our trade deficit has continued to grow regardless—and especially with Japan—it has continued to grow regardless of the strength of the dollar. There was a period not too many years ago when we had a weak dollar and the deficit still grew.

Indeed, in that area I'd like to quote from an article in the New York Times back on May 28. They were interviewing the Trade Minister of France. And she was asked this question about the strength of the dollar and the impact upon trade, and she made the following comment: "Nobody can sell to Japan. The Japanese talk about the dollar, which is certainly a part of the problem, but we don't have the dollar and we can't sell anything there, either."

Others have indicated that it's product quality as the problem, that the quality of the products the Japanese produce is superior to American quality. Speaking for the semiconductor industry specifically, our quality has been the match or superior to Japanese quality for a number of years now. That has not proven to be a means of increased penetration of the Japanese market.

Others have indicated it's the sheer lack of effort in penetrating the Japanese market that influences our poor trade performance. And, again speaking for the semiconductor industry, from the very beginning we were internationally minded. We set up sales offices, et cetera, in foreign countries at the same time we set up offices here domestically. We have been aggressively pursuing the Japanese market, but to no avail.

I happen to believe that there are some other factors here that are really influencing more than the prior three on our success from a trading standpoint. One, I have to admit, comes down to management practices in U.S. companies. Certainly, there are many companies in the United States who tend to take a short-term view of their business strategy, as opposed to a longer term strategic approach.

There are many managements in the United States that are made up of people who never built their experience on the manufacturing floor or the engineering lab, but really come in directly out of environments that were not manufacturing or engineering based. And I think the result of some of that is the poor manufacturing and performance we've had in many areas. And the result has been managements that tend to have a hands-off approach to running a business.

Another area involves the trade practices of our partners, especially Japan. The lack of access to the Japanese market that is either culturally arranged or arranged by the Government is a practice which clearly increases our trade deficit. The practice of dumping on the part of some of our trading partners when excess capacity materializes undermines our trading capability. And the targeting of industries, especially by Japan and specifically in the semiconductor area, has a traumatic impact on our ability to compete in a free trade manner.

And finally, the third in my mind—by far the most important and the most difficult to remedy—are the structural differences in the financial environment that industry in the United States must operate in, compared to the financial environment that exists in Japan.

To address these I suggest the following:

In the area of management practices I think that we have to own up to the fact that those issues that are within our control we must address in an effective and efficient manner. We must insist upon managements in our corporations that are knowledgeable in terms of what it takes to run an effective worldwide competitive company, that they focus on long-term strategies; which is a difficult issue when you have a financial environment which really is primarily focused on short-term results. Those areas are an area of redress that corporate industrial managers in the United States must face up to.

In the second area, I believe that Government and industry must work together now to address the negative aspects of our trading partners' trade practices, especially Japan. It is impossible for us to tolerate the trading on our part of the raw materials to Japan and accepting manufacturing products in return. That is the definition of an undeveloped country: A country that sells raw materials and buys finished products. We cannot accept that.

Setting up assembly plants in the United States is not an answer, either. And that is a practice that is currently being used extensively by a number of foreign governments, especially Japan. The problem with that is it's like taking drugs, it doesn't get at the crux of the matter.

The crux of the matter is where the industrial research is going on. And if the R&D isn't done in that assembly plant you're falling further and further behind. We must insist—the Government and the U.S. industry must insist—upon fair trade and we must insist upon it now before permanent damage is done to our industrial base.

In the final area, the area that I think is by far the most difficult because it represents a much longer term solution—the solution is longer term to get at the problem—and that's the structural differences between our trading partners and ourselves. An example of that is the fact that the cost of capital in Japan represents a cost that is half that cost in the United States.

If you apply that fact of life to a high intensive capital industry like the semiconductor industry you are putting the industry in the United States at a disadvantage that is probably impossible to overcome. That structural disadvantage must be addressed.

I happen to believe that the way to address it is depicted by and large in the report from the President's Commission on Industrial Competitiveness. One of the things that was recommended in that report is that a Cabinet-level Department of Trade and Industry be established to focus on issues of industrial competitiveness and world trade, which currently does not exist. All efforts in those areas are scattered amongst many, many agencies of government.

All of the aforementioned problems and suggested remedial steps apply to the troubled semiconductor industry as well as our broad

industrial base. The U.S. semiconductor industry has done an excellent job of addressing those issues that are within its control.

We ask that our Government interest itself in those issues that are beyond our control before permanent damage is done to this critical U.S. industry. Thank you.

Senator WILSON. Thank you very much, Mr. Sporck.

[The prepared statement of Mr. Sporck, together with attachments, follows:]

PREPARED STATEMENT OF CHARLES E. SPORCK

My name is Charles Sporck, and I am the President and Chief Executive Officer of National Semiconductor Corporation of Santa Clara, California. National Semiconductor had sales last year of $1.8 billion of which $1.1 billion, or approximately two-thirds was semiconductors. National semiconductor is the third largest semiconductor manufacturer in the United States and sells to a broad range of industries including data processing, telecommunications and automotive.

I am appearing today on behalf of the Semiconductor Industry Association, a trade association composed of 48 United States manufacturers of semiconductors. A list of our members is attached.

Status of the U.S. Semiconductor Industry

Today I want to focus on two issues:

- The erosion of our industrial base in the United States
- The long-term effect on the semiconductor industry from Japanese trading practices

But before I do so I want to provide some background on the semiconductor industry.

The worldwide semiconductor industry has approximately $25 billion in total sales. That amount is forecasted to increase to $100 billion within a relatively few years, as most analysts expect the semiconductor industry to grow by 15 to 20 percent per year on average over time.

The semiconductor industry provides the building blocks for the electronics revolution which has taken place in recent years. Today, the results of this revolution are all around us from engine controls on automobiles to reduce pollution and personal computers which have more power than large-scale business computers of only a few years ago, to telecommunications systems which now enable us to direct dial to dozens of other countries in a matter of seconds. The successful flights of the space shuttle would not have been possible without advanced semiconductor technology. And, of course, the defense of the United States is increasingly dependent on advanced microelectronics.

The electronics industry is forecasted to be one of the largest industries in the world by the year 2000. No country can remain a first-rate industrial and military power without a first-rate electronics industry to support the rest of its industrial base. The semiconductor industry is critical not only for advanced products to support the electronics and other leading-edge industries but also because products from this industry are essential to aid in the modernization and

thus increased international competitiveness of many of the basic manufacturing industries in the United States.

In the last decade, the U.S. semiconductor industry has been a success story during a period in which many U.S. industries have found it increasingly difficult to compete in domestic and international markets. The semiconductor industry has also been successful in continually reducing the price of its products even during periods of double digit inflation. The average selling price for MOS memory, a representative function, has for instance fallen by approximately 40 percent annually.

This success, plus the recognition that success in the semiconductor industry is the key for success in many other industries, has lead to intense competition for our industry, especially from companies based in Japan.

In part because of that competition, the U.S. semiconductor industry is currently in the deepest recession I have experienced in my more than two decades in this industry. It is estimated by the Semiconductor Industry Association that U.S. semiconductor shipments will decline from 20 to 25% in 1985. The SIA estimates that 18 to 20,000 U.S. employees have been laid off, out of a total work force of about 200,000. What is significant is that this is the first time our industry has suffered a recession without a corresponding general economic decline for the U.S. economy.

This situation has resulted in significantly reduced profits for virtually all U.S. firms in the industry and in a very uncertain near-term outlook.

Capital Spending

The semiconductor industry is very capital intensive and this capital intensity is increasing. The level of capital intensity may come as a surprise to many people who do not expect a "high technology" business to be more capital intensive than many of our basic industries. However, as a June 1984 report by Dataquest shows, the capital intensity of the semiconductor industry has been increasing for the last decade.

CAPITAL SPENDING BY U.S. MERCHANT MANUFACTURERS

(MILLIONS OF DOLLARS)

Year	Capital	Sales	Percent of Sales
1975	$ 170	$ 2,805	6.1%
1976	312	3,519	8.9
1977	381	4,077	9.3
1978	637	5,100	12.5
1979	1,023	6,689	15.3
1980	1,388	8,462	16.4
1981	1,357	7,903	17.2
1982	1,216	8,079	15.1
1983	1,501	9,895	15.2
1984 (estimated)	2,779	13,526	20.5%

The capital spending required to support a dollar of sales has increased from 6% to more than 20%, and that trend seems likely to continue. For instance, the cost to build just one high-volume superchip plant in 1990 will be $200 million,

or 10 times the cost of a decade earlier. Japanese semiconductor companies spent an even higher percent of sales on capital and in total dollars are now outspending the U.S. industry even though the Japanese industry is smaller in size.

To put these numbers in perspective, the June 1984 Dataquest report estimated that between 1980 and 1989 the merchant semiconductor industry would have capital expenditures of $33 billion.

The trends at National Semiconductor have been very similar to the trends reported in the Dataquest report, as our capital expenditures increased from $131 million in 1983 to $278 million in 1984 to $400 million in 1985. The capital spending level for a dollar of sales is at least 20%.

Research and Development Spending

In addition to being capital intensive, the semiconductor industry is also very research and development intensive. The research and development intensity of the semiconductor industry is evident from the following information which was taken from the March 22, 1985 issue of Business Week. This shows research and development as a percent of sales.

Year	All Industry Composite	Semiconductor Industry
1981-1982	2.3%	8.1%
1982-1983	2.6%	8.4%
1983-1984	2.8%	7.5%

The 5-year growth rate for the semiconductor industry was 24.8% compared to 14.4% for U.S. industry in total.

Our experience at National Semiconductor has been very similar to the rest of the semiconductor industry.

Fiscal Year	Sales	R&D	% of Sales
1982	$1,104	$109	9.9%
1983	$1,210	$115	9.5%
1984	$1,655	$158	9.6%
1985	$1,788	$205	11.4%

The sales and research and development information shown is in million of dollars. The above information is for the total company.

The research and development intensity of the semiconductor portion of the company is apparent from the following information.

Fiscal Year	Sales	R&D	% of Sales
1982	$ 747	$ 87	11.6%
1983	$ 785	$ 91	11.5%
1984	$1,102	$131	11.9%
1985	$1,150	$176	15.3%

The sales and research and development information is in millions of dollars.

To put these numbers in perspective, during the 5 fiscal years from 1981 to 1985, National spent $683 million on research and development while reporting after tax profits of $135 million.

Thus, the U.S. semiconductor industry which is obviously very capital intensive and research and development intensive is facing increasing foreign competition at the same time our

technology advantage is narrowing.

The Erosion of the U.S. Industrial Base

Given this background of the U.S. semiconductor industry, I would like to discuss the erosion of the U.S. industrial base.

Although we have all seen frequent articles about plant closings or companies going out of business, I believe that the problem is more severe than is readily apparent. The problem of the erosion of the U.S. manufacturing base has been partly hidden by the relative strength of the service sector of the economy.

An article in the July 8, 1985 issue of Business Week entitled "Why Service Jobs Can't Keep Stoking the Economy" summarized many of my concerns about the need for a viable manufacturing sector. Among the issues covered in the article is the link between the manufacturing sector and many sectors of the service sector, growth prospects for various services, the cyclical nature of some sectors of a service economy and the pay differential between manufacturing and service jobs. I have included this article in the appendix to my testimony. I have also included in the appendix a recent report by the economic consulting firm of A. Gary Schilling & Company, Inc. which discusses the issue of service and manufacturing in more detail.

The problem of the erosion of the U.S. manufacturing base has also been partly hidden by the fact that in many cases companies don't disappear, but stop manufacturing in the U.S. and source products offshore.

Clearly, the U.S. economy has been going through some rather dramatic changes in recent years. Some of these changes have been the result of deregulation such as in the airline industry, with the resulting financial impact on those carriers whose cost structure resulting from operating in a regulated industry for many years has left them vulnerable to competition from newly formed carriers.

Some of these changes have been the result of the growth of newer technology companies and the relative decline of some companies in more mature industries.

However, the most dramatic change in the U.S. economy in the last decade has been the increasing level of competition that virtually all sectors of U.S. industry face from foreign competitors.

Our response as a society to the challenge of international economic competition is critical to our ability to maintain our industrial base, our standard of living, our military power and our political role in the western alliance and in the world community.

Given the importance of a strong industrial base, it will be helpful to briefly review some statistics on how well we are doing.

First, the U.S. merchandise trade balance has moved from approximately breakeven in 1975 to an approximately $40 billion deficit in 1980, to a deficit in excess of $130 billion in 1984.

Second, the manufacturing capacity utilization rate which is compiled by the Federal Reserve has peaked at a lower level during each successive upturn during the last two decades and has bottomed at a lower level during each successive downturn during the last two decades.

Third, although the United States has been successful in creating millions of new jobs in the last two decades, the increase has been in service jobs, not manufacturing jobs. The unemployment rate in each economic recovery has been higher than in the prior recovery, and the unemployemnt rate during each recession has been higher than in the prior recession. During the 1960s, most economists considered a 4 percent unemployment rate to be normal during a strong economic environment. The U.S. economy has had some strong performance since 1983 and yet the economic forecast released by The White House in late July projects an average unemployment rate of 7.1 percent for 1985 and 6.9 percent for 1986. The unemployment rate is currently 7.2 percent, and it is higher than that in the manufacturing sector of the economy.

Fourth, our trade deficit with Japan continues to deteriorate. Unfortunately, the profile of our trade with Japan resembles that between a developing country and a developed country

as the U.S. is generally exporting raw materials to Japan and importing manufactured products in return. My estimate is that our manufactures imports from Japan exceed our manufactures exports to Japan by a factor of at least four to one.

I could continue with a long list of additional statistics indicating the decline in our industrial base and trade position, but I believe that the evidence is clear.

There have been a number of explanations for the decline in our trade position including interest rates and the strength of the U.S. dollar. However, our trade balance with Japan has continued to deteriorate regardless of interest rate differences and currency values. Product quality has been given as an explanation, yet the U.S. semiconductor industry has product equal in quality to what is available from Japan and still cannot gain market share in Japan. I will also add that this inability to increase market share in Japan is not for lack of effort, as U.S. semiconductor producers have been trying for years.

I want to briefly discuss three of the most important issues in our trade problem.

The first issue relates to management practices in some U.S. companies. These practices have included too much emphasis on short-term financial performance, short-term cost reduction efforts rather than long-term development of technological competitiveness, lack of attention to manufacturing efficiency and too many hands off managers in industry.

The second issue relates to trade policy, especially with Japan. This problem is lack of access to the Japanese market and whether caused by government policy or culture, and the answer is clearly both, the result is a very one-sided trading relationship.

Finally, the third issue, and by far the most important and most difficult involves long-term structural problems such as a cost of capital in the United States which is approximately twice what it is in Japan and a savings rate in the United States which is approximately one third of the level in Japan.

To address these issues, we need to do the following.

First, U.S. industry needs a management practice which is more aggressive in the area of manufacturing efficiency, more receptive to risk taking in the area of research and development and takes a long-term view of corporate progress.

Second, government and industry must work together on addressing the negative aspects of our trading partners trade policies. This is especially true with respect to Japan. The current policy of exporting raw materials and importing finished goods is the sign of an undeveloped economy. The opening of assembly plants in this country is not an answer as many of the parts are manufactured outside of the United States and where the research and development is done is critical for long-term industrial success. We need mutual trade with an emphasis on market access.

Third, we need to address the many financial structure disadvantages which impact U.S. industry compared to Japanese industry. To address these disadvantages, we need an entity in government to focus on the international competitiveness of U.S. industry. The first step should be the establishment of a cabinet-level department of trade as recommended in Global Competition: The New Reality which was the report of the President's Commission on Industrial Competitiveness. This report was released in January 1985.

Specific Problems of the Semiconductor Industry

The problems of a declining industrial base, financial structure differences between Japan and the United States and Japanese trading policies all have a direct impact on the U.S. semiconductor industry.

A declining industrial base in the United States impacts the U.S. semiconductor industry by reducing the number of potential customers as firms go out of business or relocate out of the United States. This in turn can impact the cost structure of the semiconductor industry which is very volume sensitive.

Particularly in this recession our major Japanese competitors operate with several major financial structure advantages compared to U.S. companies. The first advantage is that interest rates in Japan are approximately half of levels in the United States. The second advantage of Japanese semiconductor

companies is that they have much higher debt-to-equity ratios than would be acceptable in the United States. Because the after-tax cost of debt is lower than the cost of equity, a company with a higher debt-to-equity ratio will have a lower cost of capital. There have been numerous studies on the cost of capital, including those by Chase Financial Policy (1980), the investment banking firm of Paine Webber (1982) and by the U.S. Department of Commerce (1983) and all have concluded that Japanese companies have a cost of capital approximately half that of U.S. companies. A report prepared by the U.S. Department of Commerce in April 1983 gives some indication of the impact of a higher cost of capital. This report found that the cost of capital in Japan was 9.2%, while the cost of capital in the United States was 16.6%. This means that the total cost of a $100 million investment amortized over 15 years in the United States is $275 million, while the total cost over 15 years is only $182 million in Japan. The lower cost of capital obviously translates into a major competitive advantage in a very capital-intensive industry such as the semiconductor industry. A third advantage of Japanese companies is that in many cases their semiconductor operations are divisions of much larger companies which because of their size and diversity can fund the large capital requirements of their semiconductor operations.

In the area of trade policy the U.S. semiconductor industry has been directly impacted by Japanese policies. Obviously, well

over 20 years ago the Japanese government recognized the importance of a strong domestic semiconductor industry and proceeded to build up an industry through a combination of government funding, restrictions of foreign investments in Japan and import restrictions. These efforts have been combined with targeting of specific products such as Dynamic Random Access Memories and pricing in the U.S. which appears to be dumping in some cases.

The results of these policies have been a relatively static 10 percent market share in Japan for the last decade. That is below the level that I believe would prevail in an open market, and is why the Semiconductor Industry Association (SIA) filed a 301 Petition in June. This reduced market share impacts our unit volume and cost structure.

The targeting of specific products such as Dynamic Random Access Memories has resulted in pricing which has left fewer U.S. producers for each new generation of products. This also has the effect of making U.S. systems producers increasingly more dependent on Japanese semiconductor suppliers for more of their parts. In many cases these Japanese semiconductor suppliers are also the competitors of the U.S. purchasers in the systems business.

From a financial standpoint, the impact of Japanese trading practices has been quite negative. Obviously, this is a cyclical industry, but lack of market access and pricing

practices do impact financial performance and thus the semiconductor industry's ability to finance research and development and capital budgets. To the extent that the future financial performance of the U.S. semiconductor industry is in question, future funding for the industry will become more difficult to obtain and/or more expensive in terms of interest rates or stock price levels.

Conclusion

In closing, I would like to reiterate my three recommendations for addressing the problems of a deteriorating industrial base and trade balance.

First, we must change some of our management practices. Second, government and industry must work together to solve the problems resulting from the trading policies of some of our trading partners. Third, we need to address the financial structure disadvantages of U.S. industry and should begin by establishing a cabinet-level department of trade.

We appreciate your support.

SEMICONDUCTOR INDUSTRY ASSOCIATION MEMBER COMPANY LIST

SIA CORPORATE DESCRIPTION	DIVISION, DEPARTMENT OR SUBSIDIARY
Advanced Micro Devices	
AT&T Technologies	Electronic Components Division
Burroughs Corporation	Micro Components Group
California Devices	
Cherry Semiconductor	Subsidiary of Cherry Elec. Prod. Corp.
Control Data Corporation	
Digital Equipment Corporation	
General Electric Company	Semiconductor Business Division
General Instrument Corporation	Discrete Semiconductor Division
" " "	Microelectronics Group
" " "	Optoelectronics Division
General Semiconductor Industries, Inc.	Subsidiary of Square D Company
GigaBit Logic	
Gould AMI Semiconductors	Subsidiary of Gould, Inc.
GTE Microcircuits	GTE Communications Products Corp. Div.
Harris Semiconductor Sector	Sector of Harris Corporation
Hewlett-Packard Company	Information Technology Group
IBM Corporation	
Intel Corporation	
International Microelectronic Products	
International Rectifier Corporation	Semiconductor Division
ITT Semiconductors Worldwide	Division of ITT Corporation
Linear Technology Corporation	
LSI Logic Corporation	
Microwave Semiconductor Corp.	Subsidiary of Siemens Components, Inc.
Monolithic Memories, Inc.	
Mostek Corporation	Subsidiary of United Technologies
Motorola, Inc.	Semiconductor Products Sector
NCR Microelectronics Division	Division of NCR Corporation
NEC Electronics, Inc.	Subsidiary of NEC Corporation
National Semiconductor Corporation	
Northern Telecom Electronics Inc.	Division of Northern Telecom Ltd.
Precision Monolithics, Inc.	Subsidiary of Bourns, Inc.
RCA Solid State Division	Division of RCA Corporation
Raytheon Company	Semiconductor Division
Rockwell International	Semiconductor Products Division
Siemens Components, Inc.	Colorado Components Division
" " "	Optoelectronics Division
" " "	Special Products Division
Signetics Corporation	
Silicon Systems	
Solid State Scientific, Inc.	Subsidiary of Sprague Electric Company
Sprague Electric Company	Subsidiary of Penn Central Corporation
Telmos, Inc.	
Texas Instruments, Inc.	Semiconductor Group
Thomson Semiconductors	A Division of Thomson-CSF Components Corp.
Unitrode Corporation	
VLSI Technology, Inc.	
Westinghouse Electric Company	Semiconductor Division
Xilinx, Inc.	
Zilog, Inc.	
ZyMOS Corporation	

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WHY SERVICE JOBS CAN'T KEEP STOKING THE ECONOMY

ALL THE CONSULTANTS IN THE WORLD WON'T OFFSET THE MANUFACTURING SLUMP

There's good news and bad news about jobs. The good news is that service jobs have been booming, more than compensating for the steady loss of manufacturing jobs in recent months. The bad news is that the good news is unlikely to last.

The spectacular boom in service employment over the past year has surprised most forecasters. Since January, service jobs have risen by more than 600,000. This has more than offset the loss of 163,000 jobs in manufacturing.

But many economists question whether services can continue to grow that rapidly. And some believe that even if the service sector—which includes a wide range of businesses, from health care to accounting to retail stores—could continue to generate jobs at the heady pace of recent months, it would not be enough to keep the economy expanding strongly. "We may get enough service-sector jobs to prevent recession," says Lawrence Chimerine, chairman of Chase Econometrics. "But we cannot get enough growth in services to keep the economy growing at 4%, or even 3%."

Such pessimism is based partly on the growing belief that service job growth is not as stable as economists had long thought. It's also based on the fact that service jobs do not pay as much as manufacturing jobs. Therefore, service jobs would have to continue to expand much faster than the rate at which the manufacturing sector loses jobs in order to make up for the loss of income.

CALLING THE TUNE. But strong growth in service jobs depends to a large extent on the health of the manufacturing sector. That sector, which employs only 20% of the total nonagricultural work force, manages nonetheless to churn out nearly 50% of the nation's gross national product. "Manufacturing still calls the tune of the U.S. business cycle," says Stephen S. Roach, a senior economist at Morgan Stanley & Co. And Wall Street economist A. Gary Shilling: "Forecasters who believe the economy will continue to grow strongly are convinced that services can grow independently, even when the goods-producing sector slumps. Service jobs, however, are linked to the health of manufacturing."

Economists had long believed that the service sector was largely impervious to the business cycle. But some of the biggest and fastest-growing services—financial and business services, transportation, public utilities, and communications—sell a large and growing portion of their output to manufacturing. And according to an analysis by Shilling, growth in these services has slowed sharply during the last three recessions.

So far, the slump in manufacturing has not hit employment growth in the services. In fact, the rate of growth of service jobs has accelerated sharply since last summer, while manufacturing employment has slumped. "What happens in manufacturing hits services with a lag," explains Shilling. "The super growth in services now reflects in large part the boom in the demand for goods in the first two years of the recovery. The slump in manufacturing will begin hitting services in coming months."

Some key service industries may already be under pressure. Profits in wholesale and retail trade peaked at $49.4 billion in the final quarter of last year, notes Robert J. Barbera, chief economist at E. F. Hutton & Co. In the first quarter of this year, those profits fell to $45.5 billion. "This occurred," Barbera points out, "while employment in the trade sector surged." This profit squeeze is expected to put a damper on trade employment growth.

Other service jobs are similarly vulnerable. The fast-growing business and health care services (chart) now account for about one-fifth of all private-sector service employment and have added jobs at an annual rate of about 7% a year since 1960. But manufacturers, in their efforts to keep costs under control, are expected to cut back on business services. Prime candidates are such business services as advertising, legal, and consulting. "If industrial America is dying out," says Lester C. Thurow, an economist at Massachusetts Institute of Technology, "then those services used by industry will die out, too."

Thurow also argues that health care, which employs more than 6.2 million people and has been among the fastest-growing services, is also vulnerable to cutbacks. That's because spending on health care has risen so fast over the past decade—doubling to 11% of GNP—that both the government and the pri-

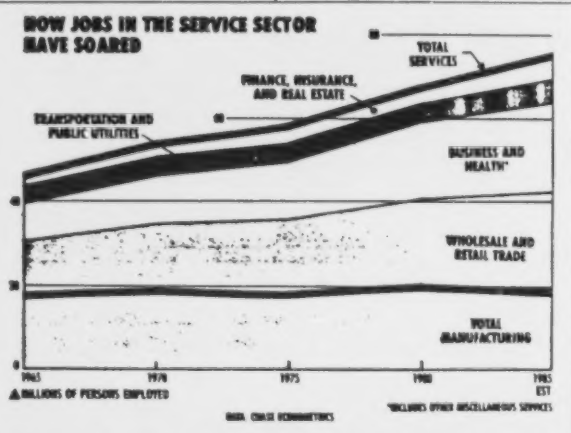

CHART BY BRAD HOLLINGSWORTH

vate sector are beginning to cap costs.

The import boom in the current expansion has also helped fuel the service job boom, since foreign goods sold in the U. S. must be shipped, stored, and marketed. But a weak economy would also mean fewer imports and fewer service-related jobs. And Thurow notes that "the notion that services are insulated from foreign competition is being broken down. Foreign advertising, retailing, and banking are making inroads."

Not all economists, of course, are pessimistic about the outlook for service job growth. "There is no question that the service sector can absorb the jobs lost in manufacturing," says Brookings Institution economist Robert Z. Lawrence. "So long as there is sufficient demand, and the policymakers can deal with insufficient demand, people will be employed."

But even if service employment continues to soar, it probably will not be sufficient to keep the economy expanding at 4%—the rate needed to keep unemployment down and the financial system afloat. So far, service job gains haven't translated into healthy economic performance. Although service jobs are booming, GNP rose a scant 0.8% in the first quarter. And according to the Commerce Dept.'s "flash" estimate, growth rebounded to only 3.1% in the second quarter. "Over the last 12 months as manufacturing slumped," notes Chimerine, "real growth has averaged 2%."

JOB GENERATOR. Service jobs do not generate as much growth as manufacturing jobs because they are less productive and lower paying. Private-sector service jobs pay only about 70% of the average in manufacturing, according to Shilling. The gap between manufacturing and service wages has been closing in recent years as productivity has picked up. And although technological advances will continue to boost service productivity, it's likely to occur slowly.

"You can standardize some tasks," says economist Robert A. Gough of Data Resources Inc. "But ultimately there are only so many insurance policies you can write in an hour." And other economists argue that there are limits to how much technological gains in services can add to growth. "We can't have a high standard of living giving each other heart transplants," says Thurow.

Moreover, rising output per worker would reduce the demand for labor in service industries, since fewer people would be required to accomplish the same tasks. Thus, the service sector's power as a job generator would diminish even as the jobs paid better. In the final analysis, the best hope for continued strong growth in service employment would be a rebound in manufacturing.

By Karen Pennar and Edward Mervosh in New York

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CAN EMPLOYMENT IN SERVICES SAVE A SOFTENING ECONOMY?

Summary and Conclusions:

The service-producing sector now dominates the U.S. economy: the importance of its industries has increased steadily in the post-war era and in 1984 they accounted for 68% of all private-sector jobs in this country.

In the early stages of the current recovery, both goods- and service-producing employment grew quickly; since last August, though, they have been following divergent courses. Growth in service-producing jobs accelerated from 3.9% to 5.1% at annual rates. In contrast, growth in goods-producing jobs slowed down dramatically, from 5.2% to 1.6%, largely reflecting increased import penetration into American markets.

Based on these facts, some analysts have concluded that the service-producing sector can expand all by itself and, because of its new preeminence, carry the entire economy. Moreover, some have suggested that a service-oriented economy will be less cyclical: service-producing industries suffer less from periodic downturns, and the brunt of recessions henceforth will be borne by foreign manufacturers of imported goods.

We disagree, and thus doubt forecasts of imminent growth based on services strength. Several considerations suggest this:

- Current employment trends may be deceptive. For example, apparent extraordinary growth of service-producing employment, and its independence from the goods sector, vanish when it is recognized that many service-producing industries "service" imported as well as domestic goods. Also, strong demand for goods in this recovery has masked the true damage to the manufacturing jobs inflicted by imports. Manufacturing may have suffered a permanent job loss, which is more ominous than the temporary job losses of past cyclical downturns.

- Service industries are cyclical — though this fact is often hidden by a strong growth trend. Downward fluctuations around an upward trend will still have depressing effects, though. Also, imports may amplify — and not dampen — the cyclicality of the domestic economy. The auto industry -- and import market share gains during recessions — illustrate this.

- A shift from goods-producing to service-producing employment tends to reduce the value of overall production and income. This, coupled with signs of weakening consumer spending, implies sluggish growth ahead for services and the economy as a whole.

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The Service Sector -- The New Workhorse of the Economy?

Without question, the service-producing sector is now the dominant employer in the U.S. economy. As shown in Chart I, the share of service-producing employment in total private nonagricultural payroll employment has been rising steadily in the post-war period, and reached 68% in 1984. Indeed, in the past eight months, service-producing industries -- which include transportation, public utilities, communications, wholesale and retail trade, finance, insurance, real estate, and services, such as business services and health services -- accounted for 85% of all new jobs created in the private sector. Also, during this period employment growth in the service-producing sector actually accelerated: as shown in Table I, it has now reached 5.1% at an annual rate, compared to 3.9% in the first 20 months of the recovery.

CHART I

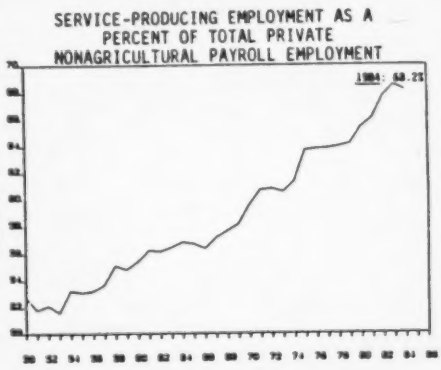


TABLE I

EMPLOYMENT GROWTH
(annual rates)

Sector	Nov. 1982-July 1984	Aug. 1984-April 1985
Total Private	4.3%	4.0%
Goods-Producing	5.2	1.6
Mining	-1.2	-1.2
Construction	7.6	11.2
Manufacturing	5.0	-0.4
Durables	6.7	-0.3
Nondurables	2.8	-0.5
Service-Producing	3.9	5.1
Trans. & Publ. Utilities	1.8	2.0
Wholesale Trade	3.4	4.7
Retail Trade	4.1	5.2
Fin., Ins., & Real Estate	3.4	4.8
Services	4.6	6.0
Business Services	12.2	8.4
Health Services	1.8	4.1

This is a marked contrast to the growth pattern in goods-producing employment. There, jobs are being decimated by the continued influx of imports. In manufacturing, which accounts for 75% of all output of the goods-producing sector, employment has actually experienced a decline since last August, following a 5.0% annual rate of growth at the earlier stages of the recovery.

This situation -- continuing growth in service-related employment, with little, if any, growth in the goods-producing area -- is different from the norm for an expanding economy. Nevertheless, many analysts seem inclined to take heart in the performance of service-producing employment and activity, rather than being alarmed by a downturn in manufacturing. They are convinced that the service-producing sector can continue to grow independently, even when the goods-producing sector slumps. Indeed, some conclude that as more and more goods production moves abroad, the U.S. economy will be less cyclical, since goods-producing industries are inherently more strongly affected by cyclical fluctuations than are service-related industries.

We seriously question this point of view. In fact, several considerations make forecasts of robust economic growth in the quarters ahead based on the strength in the service-producing sector appear doubtful. First, in the present recovery employment growth in service-producing industries has been weaker -- and the recent drop in manufacturing jobs more ominous -- than the numbers may at first suggest. Secondly, service-producing industries are not only themselves

cyclical, but are related to the health of domestic goods-producing industries. Finally, the signs of a continuing weakness in the economy are more suggestive of a recession than a rebound. We have developed seven reasons to support this point of view.

1. Spectacular Job Growth -- A Statistical Deception?

Some argue that unusually rapid and continuing growth in service-producing employment in this recovery illustrates its independence from the goods sector. However, this growth may not have been as overwhelming as it appears. On the one hand, service employment growth in relation to economic activity as measured by GNP has indeed been spectacular. But it should be remembered that GNP tallies only the output of U.S. nationals and does not include imports. Many service-producing industries, however, "service" goods that come from abroad, as well as American-made products. For example, imports need to be transported to their final destination, stored, and sold. Therefore, growth in service employment should also be compared to an alternative measure of economic activity which adds imports to GNP and which we will call "total activity."

TABLE IIA

GROSS NATIONAL PRODUCT VS. TOTAL ACTIVITY
(annualized percent changes in constant dollar levels)

	82:IV to 84:IV	75:I to 77:I	70:IV to 72:IV	61:I to 63:I
Gross Nat'l Prod.	6.0%	5.6%	5.8%	5.1%
Total Activity	7.0	6.7	6.0	5.2

NOTE: Total Activity equals gross national product plus imports. It records all purchases and production in the economy.

The first line of Table IIA shows the growth in gross national product in the first two years of the current recovery, and in the first two years of each of the three previous recoveries. The second line shows the growth in total activity during the same periods. Note that in the current recovery, the annual rate of growth in total activity is a full percentage point greater than that of GNP, the difference being due to the surge of imports. No such difference can be detected in the previous recoveries. The implications of this difference are illustrated in Table IIB, which shows the growth in service employment in relation to the growth in real GNP and real total activity. We see that the rate of change in service-producing employment during the current recovery was 72% that of GNP, the highest of the last four expansions and distinctly higher than in the expansions of the early 1970s and early 1960s. But if we include imports in GNP and relate the growth in service employment to the growth in real total activity (as shown in the second line of the table), it becomes clear that services employment has not, after all, grown exceptionally fast in the current upswing.

TABLE IIB

CHANGES IN PRIVATE SERVICE-PRODUCING EMPLOYMENT AS A PERCENT OF THE CHANGE IN REAL GNP AND REAL TOTAL ACTIVITY, OVER THE FIRST TWO YEARS OF RECOVERIES

	82:IV to 84:IV	75:I to 77:I	70:IV to 72:IV	61:I to 63:I
Serv/GNP	72%	70%	59%	45%
Serv/TA	61%	68%	57%	44%

2. Strong Demand for Goods -- Covering Up Losses?

The strength of the current economic recovery obscures underlying weaknesses in the U.S. employment situation. The damage done by imports to manufacturing jobs in this country may be even more ominous than is now apparent.

Table III examines employment growth in the first two years of the current recovery and compares it with the previous three recoveries. Column A in each

case shows the annual growth rate of employment over the two-year periods in each sector. Column B shows each sector's share of all new jobs created over the two-year periods, while Column C shows the share of total employment of each sector at the end of each two-year period. It is interesting to note that at the end of the first two years of the current recovery, the share of new jobs created in goods-producing sectors, 33.5%, exceeded by almost two percentage points the share of goods-producing jobs in total employment. In other words, goods-producing employment was rising more rapidly than its share of total employment, reflecting very strong demand for goods. In contrast, during the mid-1970s recovery the share of new jobs created in the goods industries barely exceeded their share in total employment, and in the previous two recoveries, it did not even equal the total employment shares.

TABLE III

GROWTH IN EMPLOYMENT OVER FIRST TWO YEARS OF RECOVERIES

Sector	Nov. 82 to Nov. 84			Apr. 75 to Apr. 77			Nov. 70 to Nov. 72			Feb. 61 to Feb. 63		
	A	B	C	A	B	C	A	B	C	A	B	C
Total Private	4.4%	100.0%	100.0%	4.0%	100.0%	100.0%	3.2%	100.0%	100.0%	2.2%	100.0%	100.0%
Goods-Producing	4.7	33.5	31.7	4.1	37.6	36.3	3.1	37.2	39.3	2.2	42.7	43.5
Mining	-0.9	XX	1.3	5.6	1.4	1.2	0.3	0.1	1.0	-3.6	XX	1.3
Construction	7.1	8.6	5.5	5.0	7.1	5.7	4.8	9.2	6.4	2.0	5.5	6.2
Manufacturing	4.5	25.2	24.8	3.8	28.2	29.3	2.8	28.0	31.9	2.5	39.6	35.9
Durables	6.2	20.2	14.8	3.8	16.5	17.2	4.3	23.9	18.5	3.7	32.7	20.3
Nondurables	2.1	4.9	10.0	3.8	11.7	12.1	0.9	4.0	13.3	0.9	6.9	15.6
Service-Producing	4.3	66.5	68.3	3.9	63.0	63.7	3.4	62.8	60.7	2.3	57.3	56.5
Trans & Pub Ut	2.1	3.2	6.6	1.4	2.6	7.0	0.9	2.1	7.5	0.0	0.0	8.3
Wholesale Trade	3.8	6.3	7.1	3.1	5.4	7.0	2.1	4.5	6.8	1.6	5.0	6.9
Retail Trade	4.7	22.4	21.0	4.4	22.5	20.5	4.5	26.6	19.7	2.0	16.7	18.0
Fin., Ins., R.E.	3.4	5.8	7.2	3.3	5.6	6.6	3.6	7.2	6.4	2.5	6.7	6.0
Services	4.8	28.8	26.5	4.8	27.0	22.6	3.6	22.5	20.4	4.1	31.2	17.3
Bus. Services	12.1	12.9	5.2	6.7	5.6	3.4	5.0	4.6	3.0	8.0	6.5	2.0
Health Services	1.8	3.3	7.7	5.3	8.8	6.8	5.5	9.4	5.7	5.6	9.1	3.8

Legend: A, annualized percent change in employment over the two year period;
B, share of all new jobs created over the two year period;
C, share of total employment at end of two year period;
XX, employment declined.

Yet, at the same time imports have been making deep inroads into manufacturing. Table IV (see page 5), taken from our earlier report With the Surge in Imports, Can Irresistible Pressures for Protectionism be Far Behind? (March 13, 1985), shows the growth of total market in a number of industries in the current expansion. The market here is defined as shipments of domestic producers plus imports. The industries on this list (31 out of the universe of 159 industries) were selected because at least one-half of their supply growth in the current recovery came from imports, as shown in the third column. The last three columns show the import penetration ratios, and it is clear that in a number of them, imports have not only increased rapidly in relation to the total market, but now account for over half of it.

In effect, demand for goods in this recovery has been so extraordinary that, despite the loss of U.S. goods production and employment to imports, the domestic goods-producing sector could still increase employment faster than normal in the first two years of the recovery. However, if domestic production had been allowed to meet all that demand, employment growth in manufacturing probably would have continued since last summer, instead of petering out. Furthermore, those "unrealized" jobs that went abroad probably represent a permanent loss to the economy, as we discuss later in Point 5. That's why these losses may prove to be a heavier burden on the economy than jobs lost in past cyclical downturns. (See Point 3 below.)

TABLE IV

INDUSTRIES WHERE IMPORTS COMPRISED AT LEAST 50% OF SUPPLY GROWTH DURING THE RECOVERY (1982 - 1984)

Industry	Growth of Supply Since 1982	Growth of Imports Since 1982	Share of Growth in Supply Met by Imports (1982- 84)	Import Penetration* 1972	1982	1984
Foundry Equipment	1.0%	108.3%	866.7%	NA	8.4%	17.2%
Footwear, ex. Rubber	8.8	43.5	188.7	17.1%	38.2	50.4
Construction Machinery	2.3	44.6	133.0	3.4	6.8	9.6
Rubber & Plastics Footwear	3.1	12.0	128.8	41.7	33.7	36.6
Paper Industries Machinery	2.3	16.2	106.4	12.6	14.9	16.9
Blowers and Fans	15.6	82.4	103.8	3.6	17.6	29.2
Air & Gas Compressors	2.8	40.6	98.8	6.0	6.7	9.2
Earthenware	33.4	44.8	92.5	61.3	69.0	74.9
Luggage & Personal Goods	39.7	89.2	87.1	20.7	38.7	52.4
Farm Mach. & Equip.	4.8	39.8	84.2	9.2	10.1	13.5
Costume Jewelry	20.5	86.2	78.1	10.4	18.5	28.6
Dolls	76.6	156.6	77.0	21.8	37.7	54.7
Textile Machinery	20.9	40.8	76.6	36.6	39.3	45.7
Radio & TV Sets	45.8	69.6	75.1	34.9	49.4	57.5
Women's Blouses	25.4	85.5	75.1	14.9	22.3	33.0
Women's Suits & Coats	14.5	62.6	74.4	7.3	17.3	24.5
Medicinals	13.1	44.4	71.2	22.0	21.1	26.9
Chinaware	19.8	33.6	71.1	41.0	41.8	46.7
Men's & Boy's Shirts & Mgtwr.	28.0	49.9	70.1	17.8	39.4	46.1
Primary Zinc	53.5	81.2	66.2	28.4	43.6	51.5
Elec. Risistors	17.6	67.2	64.7	NA	19.9	26.6
Transformers	3.3	22.8	59.2	3.5	8.6	10.3
Teleph. & Telegr. Equip.	16.5	177.8	57.6	2.1	5.0	12.1
Welding Apparatus	4.5	48.8	57.4	NA	5.3	7.5
Men's & Boy's Suits & Coats	15.8	44.8	56.8	7.1	20.1	25.1
Printing Trades Mach.	18.1	58.5	56.2	8.5	17.1	22.9
Musical Instruments	14.1	36.9	55.1	14.9	21.0	25.2
Men's & Boy's Outwear	19.9	49.9	53.9	8.7	21.4	26.8
Nitrogenous Fertilizers	18.8	78.4	53.8	4.3	12.9	19.4
Men's & Boy's Work Clothing	12.9	65.7	53.6	7.3	12.4	17.1
Pulpmills	24.7	43.5	50.7	30.4	28.8	33.1

*Import Penetration is imports divided by supply (U.S. product shipments plus imports).
Source: U.S. Industrial Outlook, U.S. Department of Commerce estimates for 1984 data.

What will be the impact of the lost market shares shown in Table IV on employment? A study by the Labor Department estimates that in 1981 for every $1 million in sales (in constant dollars) the U.S. auto industry generated a total of 47 jobs: 16 in auto production itself and 31 in complementary industries such as steel, parts suppliers, and tire producers. The numbers for the steel industry are even larger. There, $1 million in sales generated 58 jobs: 22 in steel and 36 in associated industries. Since 1982, the U.S. merchandise trade balance, excluding agricultural products, has declined in constant dollar terms by $33 billion. Using the auto and steel job numbers as a rough proxy for all industries, we calculate that rising imports could have stripped over 1.5 million jobs from the U.S. economy -- mostly in manufacturing.

CHART II

IMPORTS OF CONSUMER GOODS AS A PERCENT OF TOTAL PERSONAL CONSUMPTION OF GOODS

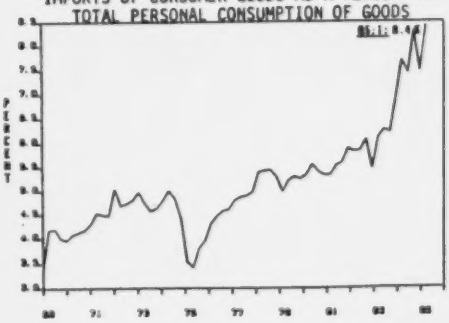


Chart II shows inroads made by imported consumer goods on the American market. Here we note the steep rise in the share of imports in total goods consumption. Had such an increase in imports occurred without the tremendous demand for goods, import penetration would have taken a far heavier toll on jobs in goods-producing industries. With

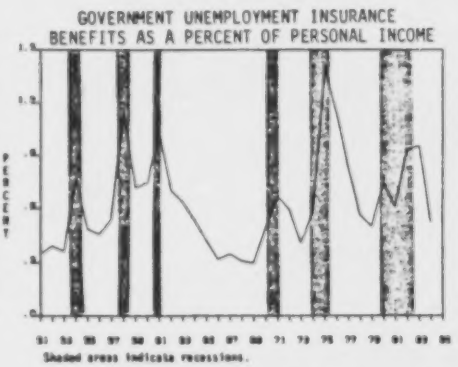
imports now firmly entrenched here, the job losses in goods-producing industries could be very substantial during the next recession, or even when the economy settles down to a slower, more sustainable pace of growth.

3. Goods and Services — Links in the Same Chain

It is easy to assume that despite the recent weakness in goods employment, service-producing employment can continue to grow independently because this has been the case in the past. However, such periods were usually associated with periods of recession or very weak growth, and involved a temporary shift in consumption patterns between domestically produced goods and domestically produced services typical of a cycle downturn. These periods were very different from the present situation, in which the critical shift is from domestically produced goods to imports, and this shift is likely to be permanent.

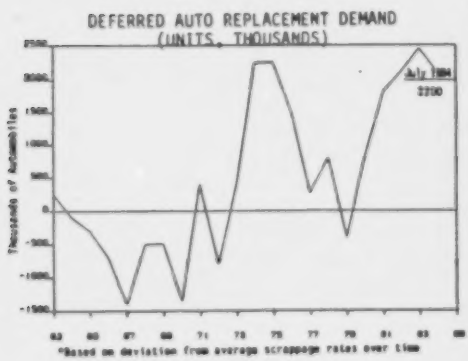
Recessions in the post-war period have typically lasted for about a year or even less. During a short recession like that, income levels in real terms generally flatten out, but do not decline, in large part because unemployment benefits from the government and private industry compensate for a large portion of the income loss. Chart III shows the sizeable increases in government unemployment insurance benefits as a percentage of personal income during those recessionary periods.

CHART III



But even though income levels hold up well in recessions, consumers tend to postpone the purchases of autos and other durable goods: the old car can be kept for a year longer. Their income is channeled instead into services and to a lesser extent into nondurable goods. The consumption of services goes on almost uninterrupted, and consumer-related service jobs are little affected. However, once the recovery begins, consumers shift back into heavy durable goods expenditures. As shown in Chart IV, deferred auto demand — and the demand for other durables — does build up. As the pent-up demand is released, the lost jobs in goods-producing industries are recreated.

CHART IV


DEFERRED AUTO REPLACEMENT DEMAND
(UNITS, THOUSANDS)
Thousands of Automobiles
*Based on deviation from average scrappage rates over time

A permanent loss of jobs in goods-producing industries is something quite different. Income levels cannot be maintained indefinitely, as supplemental unemployment benefits in the private sector and unemployment benefits from the government, which are designed to deal with temporary job losses, eventually run out. Recently, for example, Congress and the Administration agreed that there would be no extension of unemployment benefits for the newly unemployed, nor would these benefits be extended further for those already receiving them. Initially, this loss of income results in severe cutbacks in spending on durable goods, leaving services virtually unaffected. But this lasts only for a limited time. As we noted before, eventually old cars and other old durables must be replaced, and as more normal spending patterns are resumed, expenditures on services are reduced. Thus, the loss of potential income growth -- due to the permanent loss of goods-producing jobs to imports -- will result in a loss in service jobs as well.

This goods and services job linkage is clearly illustrated by the impact of recent geographic displacements of goods-producing jobs on the entire economy of the affected region. For example, as goods employment declined in the Rust Belt, so did jobs for retailers, business service workers, etc. Many of those goods-producing jobs originally fled to the Sun Belt, but now that they are moving on overseas, the same loss of service jobs is likely in that region, as well.

4. Cyclicality Camouflaged by A Growth Trend

TABLE V

TREND GROWTH RATES AND DEVIATIONS
FROM THE TREND DURING RECESSIONARY PERIODS

Sector	Trend Growth Rates		Deviations from Trend During Recessionary Periods		
	1975 to 1983	1969 to 1979	7/81 to 12/82*	6/79 to 7/80*	12/73 to 7/75**
Total Private	2.2%	2.4%	-4.7%	-3.0%	-4.4%
Goods-Producing	0.4	0.8	-8.3	-5.8	-8.5
Mining	3.1	4.5	-13.1	3.2	3.5
Construction	1.4	2.2	-7.6	-6.5	-13.5
Manufacturing	0.1	0.4	-8.2	-6.2	-7.9
Durables	0.1	0.7	-10.7	-7.8	-9.4
Nondurables	0.1	0.0	-0.8	-3.6	-5.6
Service-Producing	3.2	3.4	-2.9	-1.4	-1.9
Transp. & Publ. Util.	1.1	1.5	-6.0	-4.9	-5.8
Wholesale Trade	2.2	2.9	-4.4	-1.7	-2.0
Retail Trade	2.6	3.3	-2.8	-2.6	-2.2
Fin., Ins., & R.E.	3.5	3.5	-2.9	0.0	-2.6
Services	4.4	4.4	-2.4	-0.3	-0.7
Business Services	7.1	6.2	-6.8	-2.5	-4.7
Health Services	4.7	5.7	-0.7	0.8	1.0

NOTE: Deviation from trend is the difference between the annualized percent change during the recessionary period and the trend growth rate.

* Based on 1975-83 trend
** Based on 1969-79 trend

Although periodic ups and downs are on the whole greater in the goods sector, it is also true that some service-related employment is highly cyclical, as shown in Table V. Often, this is masked by a strong growth trend, but fluctuations around an upward trend are still cyclical and have a depressing effect on the economy. Thus, even if service-producing industries don't actually lay off workers, they clearly do reduce the rate at which new employees are added. Either way, the net result is the same: i.e., more people without work.

Note in the service-producing portion of Table V that transportation & public utilities, wholesale trade, and business services all have shown considerable negative deviations from their trend growth rates during recessions, particularly the 1981-82 downturn. This is not surprising since, as shown on Table VI, these service-producing industries sell considerable portions of their output to goods

TABLE VI

SHARES OF TOTAL SERVICE-PRODUCING SECTOR OUTPUT BOUGHT AS:
1. Intermediate Purchases (used in production process); or
2. Final Purchases

	Intermediate Purchases			Final Purchases	Total
	Manufacturing	Agricultural, Mining, and Construction	Service-Producing	By: Households, Businesses, and Government	
Business Services	22%	11%	47%	20%	100%
Transportation & Warehousing	25	7	26	42	100
Wholesale & Retail Trade	15	8	6	71	100
Public Utilities & Communications	25	3	31	41	100
Finance & Insurance	6	4	36	54	100
Real Estate & Rental	3	5	21	71	100
Health & Personal Services	4	1	13	82	100

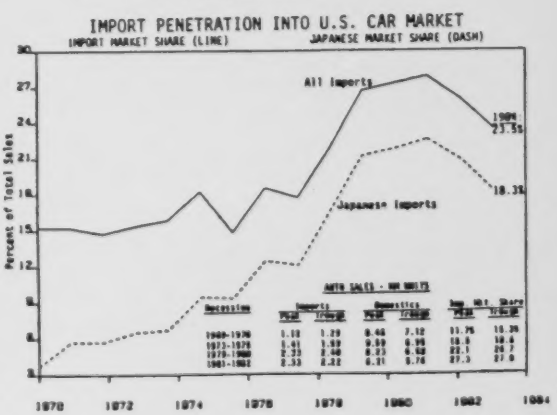
NOTES: 1) This table is based on data from the Commerce Department's Input/Output Tables for 1977 (the most recent available).
2) Interpretation of entries: The 22% in the Business Services row in the Manufacturing column refers to the share of total Business Services output purchased by manufacturing firms on current account.

producers. For example, 22% of business services' 1977 output was purchased by manufacturing companies in the course of their production process. Agricultural, mining, and construction firms accounted for another 11% of the business services' sales. Note also that transportation & warehousing, wholesale and retail trade, and public utilities & communications all sell meaningful amounts of their output to either manufacturing or agriculture, mining, and construction industries, or both. In effect, then, the cyclicality in goods-producing areas does spread to these service-producing areas. It is particularly worth returning to Table III and noting in the first column that business services, the most cyclical of the service industries, has experienced the most rapid growth in the current recovery, rising at a 12.1% annual rate.

5. Imports: Meek Victims of the Next Recession?

Some have suggested that the economy is less cyclical now because the substitution of imports for domestic goods means that foreign manufacturers will bear the brunt of an overall downturn in spending here. This thesis, too, is becoming highly questionable. A case in point is the auto industry. Here, far from being insulated from business cycles, U.S. producers are increasingly becoming their principal victims, as shown in Chart V. In each of the four recessions since 1969, the share of imports in the total U.S. auto market jumped anywhere from one to four percentage points. In three of those recessions — including the 1982 recession, when import restraints were in place -- sales of imported cars actually increased in unit terms. By contrast, sales of domestic cars fell during all four recessions. Furthermore, Japanese producers enjoy a price cushion that will protect

CHART V



them during any period of weak auto demand. Finally, strong catch-up demand during the two years of economic recovery -- which coincided with import restraints -- has created a backlog of demand for Japanese cars, which, along with normal downtrading to cheaper, more fuel-efficient cars, will keep their sales growing in the next recession.

Although the situation with autos is extreme, it isn't by any means unique. The strength of the dollar in recent years has allowed many foreign producers to undercut U.S. manufacturers' prices in American markets. It has also provided them with enough additional funds to build considerable marketing arms in this country, which will make them more effective competitors even during future business downturns. This is true in a number of high-tech industries, including equipment built for the semiconductor industry. Thus, imports may feel proportionately less pressure in a period of weakness than their domestic counterparts.

6. The Income Factor — Exchanging More for Less

In the longer run, a shift from a goods-producing to a service-producing economy tends to reduce the value of overall production and incomes. Unfortunately, the availability of complete data for service-producing industries has lagged far behind its availability for goods-producing industries -- despite the fact that services are now dominant. Consequently, we often concentrate on employment data without realizing that jobs in the service-producing sector tend to pay less, and add less value than jobs in the goods area.

Table VII shows this very clearly. For example, in the motor vehicle industry, average compensation per employee in 1983 was $37,200, and value added per employee, which includes compensation, profits, and other income flows, was $57,000. By contrast, business services had compensation per employee of $18,300, and value added of $26,300. Goods-producing industries overall had compensation per employee of $26,400, which was 40% greater than the $18,800 of service-producing industries, and value added of $39,700, 35% greater than the $29,500 of service industries. Of course, it can be argued that many goods-producing jobs are leaving our shores precisely because our workers are overpaid compared to foreign competition, but that's a different story. The point is that as these goods-producing jobs disappear because of imports, we are left with not only lower-paying jobs, but also ones that add less to total income flows. And it is not surprising that with this reduced income flow, the economy is currently showing signs of significant weakness, if not recession.

TABLE VII

COMPENSATION AND VALUE ADDED PER EMPLOYEE
(1983 data; current dollars)

	Compensation	Value Added
Goods-Producing	$26,400	$ 39,700
Mining	34,200	117,400
Construction	23,800	33,200
Manufacturing	26,600	37,000
Durables	28,500	36,200
Primary Metals	33,500	44,100
Motor Vehicles	37,200	57,000
Nondurables	24,000	38,300
Service-Producing	$18,800	$ 29,500
Transp. & Pub. Util.	31,500	61,900
Wholesale Trade	25,200	43,500
Retail Trade	11,900	19,800
Fin., Ins., R.E.	24,300	31,900
Services	17,800	24,300
Business Services	18,300	26,300
Health Services	20,400	25,300

7. A Slowdown in Consumer Spending — A Sign of a Weakening Economy

The income loss associated with rising imports has its greatest impact on consumer spending. Recently, this sector of the economy has been in something

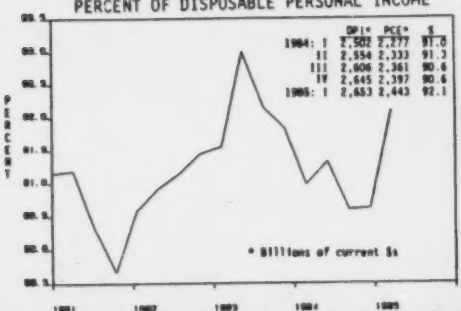
of a fool's paradise, and when the chickens come home to roost, service employment could be curtailed considerably.

Consumer spending was strong in 1983 and 1984, when individuals were making up for the dry spell in spending in the 1979-82 recession. Although this catch-up was completed last fall, consumers were induced to continue their buying spree by giveaway prices at Christmas: general merchandisers were overstocked with goods. More recently, auto companies have joined the fray by offering cut-rate financing to boost sales.

In effect, consumers have been buying ahead. Growth of personal consumption expenditures like the first quarter's 4.7% inflation-adjusted annual rate seems unlikely to endure.

CHART VI

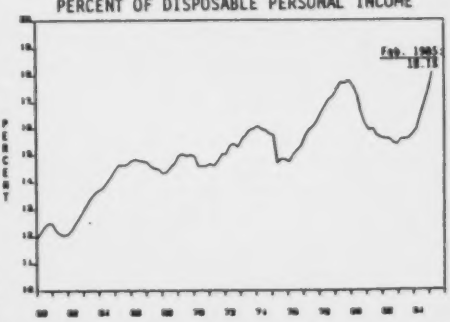
PERSONAL CONSUMPTION EXPENDITURES AS A PERCENT OF DISPOSABLE PERSONAL INCOME



In addition, domestic spending is concentrating increasingly on imports and hence flowing out of the country, resulting in commensurately less domestic employment growth and income creation. Not surprisingly, the result shown in Chart VI is that consumption expenditures as a percent of disposable income have increased sharply in early 1985, and as noted in Chart VII, consumer installment debt as a percentage of disposable income reached new highs in February. Furthermore, debt is much more onerous today than it was at the previous peak in 1979, since interest rates are much higher now, and double-digit inflation is no longer present to reduce the burden of repayment. Many mortgage-holding consumers realize this as they literally walk away from their houses: rapid appreciation of real estate which they anticipated at the time of purchase has not occurred, and they are left with carrying costs they cannot or will not pay.

CHART VII

CONSUMER INSTALLMENT DEBT AS A PERCENT OF DISPOSABLE PERSONAL INCOME



This suggests that consumer spending is on its last legs, and since it makes up two-thirds of total economic activity, the downside risks to the economy are considerable. As we point out in the March 9, 1985 Quarterly Economic Report, a slowdown, if not an outright recession, may develop in the near future. In effect, then, the recent weakness in jobs in goods-producing industries is the counterpart of the strength in imports. The difference has been made up by unsustainable rates of borrowing. This hardly suggests a permanent situation in which goods-producing jobs can languish while service-related jobs continue to grow rapidly and sustain economic growth.

A. Gary Shilling

Charles R. Larson
Assistant Economist

Senator WILSON. We will next hear from George Scalise, senior vice president and chief administrative officer for Advanced Micro Devices. AMD is headquartered in Sunnyvale, CA. It is one of the fastest growing semiconductor manufacturers in the world. In 1984 AMD was the world's ninth-largest merchant semiconductor company, posting sales of $922 million.

Mr. Scalise is a member of the board of directors of Micro Electronics & Computer Technology Corp., chairman of the board of the Semiconductor Research Corp., and chairman of the Public Policy Committee of the Semiconductor Industry Association. He has also served as an adviser to the United States-Japan Work Group on High Technology Industries.

Mr. Scalise, we are delighted that you are with us this afternoon. Welcome.

STATEMENT OF GEORGE M. SCALISE, SENIOR VICE PRESIDENT AND CHIEF ADMINISTRATIVE OFFICER, ADVANCED MICRO DEVICES, ON BEHALF OF THE SEMICONDUCTOR INDUSTRY ASSOCIATION [SIA]

Mr. SCALISE. Thank you, Senator.

First, I would like to thank both you, the Congresswoman, and your staffs for the guidance and the support that we have received as we have developed our legislative agenda at the SIA. And I think in large part because of that support it has been a very successful agenda. Nearly all of what we have been pursuing for the last few years has now been enacted: the trade bill of last year, the chip protection bill, the antitrust legislation related to joint R&D efforts, the Export Administration Act in its modified form.

And we only have one left. It's an important one, but we'll need to pursue that either in the context of current tax law, or perhaps in the new tax law, and that's the R&D tax credit. And, as Charles Sporck has indicated, we're a very R&D-intensive industry and the credit is a very important part of our agenda if we're to continue to invest at a rate that will allow us to compete vigorously with our foreign competition.

So we look forward to continue to work with you in the future as we complete this agenda and move forward into new areas.

What I want to do for a few minutes today is—first of all, I've submitted my prepared statement—but I would like to carry you through a scenario that will perhaps give you a better understanding as to why the SIA reached the conclusion that it was necessary to file this 301 trade action.

The SIA was formed in 1977. In large part it was formed to make certain that it dealt effectively with the opportunities that were out there in the world, the data collection that would allow us to better measure how things were unfolding, and to be certain that the trading practices around the world were such that we were going to be able to compete fairly and vigorously in all markets.

A very important issue—and I'll touch on that a bit later, because it relates to the opportunity for any company or any industry to succeed, and in particular it's true in the semiconductor industry.

So if we go back to the 1960's, at that time Japan had a system in place—they called it the infant industry program—that prevented any foreign investment.

[Pause as slide projectionist adjusts and focuses overhead projector.]

Mr. SCALISE. OK, we have the first slide.

So the Japanese erected high tariffs; there were quotas; we had to get—every order that was processed required a documentation process that gave us the import access. But the most important thing that occurred during that period was we were not allowed to invest in Japan.

Now, at that very same time—and I'll get back to this later—we were investing not only in capacity here in the United States, but we were investing in new plants and capacity in Europe. I think you'll see how this relates a little bit later.

So that, as a result of these restrictions that were applied to us at that time, we got about 10 percent of the market in the 1960's. It wasn't a very big market, but we only enjoy about 10 percent of it. [Slide.]

Now, this next statement, I think, is indicative of how things were handled at that time. This comes from the Japan Economic Journal of November 1968:

> [MITI has] decided on a policy of holding down entry of new makers into the field of producing integrated circuits, requiring licensing of know-how from Texas Instruments of the United States with the aim of strengthening the international competitiveness of domestically developed IC's. * * *"

So the idea behind this whole thing was to keep the U.S. competition out—we're strong, we're capable—and build up the internal capability. I think what that translates to is the first steps of the formation of an oligopoly. [Slide.]

To go on to the 1970's, up to the middle of the 1970's these restrictions remained in place. But around 1974-75 liberalization took place. Quotas were supposedly lifted; investment controls were phased out; tariffs were reduced to the 4.2-percent level; U.S. companies were allowed to open up their sales offices in Japan to begin to compete for market share over there.

In parallel with that there was a major thrust into the consumer market here in the United States, radio and TV in particular; and what turned out to be a much larger market later on that followed on that was the videotape recorder field. The consumer business moved away from the United States into Japan, which gave them a very large base to work with as far as building up that industry.

But perhaps the most important thing that took place, in parallel with the liberalization was an effort to really not have that occur. [Slide.]

I think this statement from Nihon Keizai in 1973 is clear:

> MITI will divide IC manufacturing firms into several groups to specialize in the respective fields of production, such as bipolar machines and metal oxide semiconductors, so that a division of labor will be established among them * * * MITI is planning to subsidize the efforts for establishment of such a production structure as a part of its countermeasures against liberalization.

So, in fact, liberalization from a legal standpoint took place. These countermeasures turned out to be far more effective when combined with the practices that had been put into place during

the infant industry program. And I think that is a very, very important issue as we deal with the market structure as it exists today. [Slide]

As we come into the 1980's there were lots of things that were done. The U.S. companies put forth a lot of effort to expand their sales activities in Japan: Some manufacturing operations went into place, design centers, improved service to customers, inventory was put in, a whole host of things to try and improve on our market penetration.

As the Senator pointed out, the tariffs came down in two steps, finally being reduced to zero on March 1 of this year, an effort that was endorsed, supported and, in fact, encouraged by our industry. But in parallel with that, again MITI continued to fund R&D programs, and the first signs of dumping began to occur with the 16K RAM around 1980.

And at that point we had hearings with the ITC where this was brought out. Within days of that time the two-tier pricing that had been in effect disappeared and for a period of time predatory practices began to recede into the background. But the important point is that our market share remained constant at 10 percent. So if you look at this curve for the history of data [slide], what it says is that over these past 10 or 15 years no matter what we have done the market share remains constant at about 10 percent. Now, perhaps one could build a case for why that should be.

But I think for anyone who would be objective with regard to the innovative products that we have brought to the marketplace, with the efforts that we have made to penetrate that market, you could only conclude that there were other forces at work that would keep one from doing a better job of penetrating than about 10 percent.

There was a recent study done by the firm of Quick & Finan—and they did this for the USTR—and the conclusion that they came to was that as a result of the restrictions that were put in place prior to liberalization and continued subsequent to liberalization that the U.S. semiconductor industry was deprived of about 50 percent of the market share that it had earned. So that instead of the 10 percent that we have today, we should have had about 20 percent.

But perhaps more important than that, the Japanese suppliers were able to penetrate our market at a rate of about twice what they would have had they not had the advantage of that additional market share in Japan, which gave them the learning curve capability that brought their cost down and helped them to enhance their technology. A very important issue.

Representative FIEDLER. Mr. Scalise, as I mentioned earlier, I'm not going to be able to stay, and I would just like to ask you one quick question before you continue.

Mr. SCALISE. Sure.

Representative FIEDLER. You mentioned earlier the fact that our high-technology people were investing in Japan. I was curious about how much investment the Japanese are doing here in the United States in our companies. Is there any investment here or any effort to try to take over or gain access to the high-technology developments here?

Mr. SCALISE. There have been several efforts there. They bought one small company here in the valley; two or three other companies have now started at least token operations here; they have talked about major investments. There is one over in Roseville that is supposedly going to be a very major fab capability. There are some down in Texas.

So that Japan is beginning to make investments of sorts here. It's kind of hard to figure out at this stage how much production will in fact take place, whether it's going to be mostly R&D. In my view, it will be more R&D than it will be production. But we'll have to wait and see.

The reason for that is, if you look at the history of the industry one of the things that is abundantly clear is that every major invention—whether it was the original transistor, or the planar process that allowed the integrated circuit, or the first memory products, or the first continuing microprocessor families—has been designed here in the United States. And they have been designed into the customers as a result of U.S. efforts.

They've been replicated by others, but all of these designs have come from U.S. efforts, and that continues to be the case. So I have always felt that their major interest was for the innovative capability they would derive from it.

Charlie Sporck may have some comments on that.

Mr. SPORCK. Obviously, I don't agree with George Scalise in that one area. I don't think that what Japan is interested in is performing R&D here at all, but rather production.

One of the things that I have noticed recently is that there is a growing incidence of Japanese companies investing in high-technology startups. In my mind, the only objective there is to get access to the technological developments that are going on in those firms.

Representative FIEDLER. So not only are they not providing you with an opportunity to enter their markets, on the other hand they are dipping in and taking some of the best technology before we even get it to the market on our side.

Mr. SPORCK. Exactly.

Representative FIEDLER. Thank you very much. I appreciate those comments. I have enjoyed very much hearing both of your comments and will look forward to reading the balance of the testimony.

[Whereupon, Representative Fiedler exits the hearing room.]

Mr. SCALISE. What I would like to do next is go on and take a look at the market share at the end of 1984. [Slide.]

This is kind of hard for you to see, and perhaps we can slide it up as we go along. But, remember what I said that back in the early 1960's when we were making investments both here in the United States and in Europe we began to set the stage for our ability to penetrate that European market while we were being deprived of that opportunity in Japan.

As a result of that investment, and continuing investment along that line, we enjoyed about 83 percent of the market here in the United States. I think we've earned that. We enjoy about 55 percent of the market in Europe; and, as you may be able to see there, Japan has about 12 percent of that market.

Now, there is a neutral market where we've both had an even opportunity to make investments to do what was necessary to get designed in to penetrate the market. And our ability there to penetrate the market is better than 4 to 1 relative to Japan; we have 55 percent, they have 12 percent.

If you take the rest of the world—the rest of the world, which is largely a Southeast Asian market, where you could easily conclude that their opportunity to penetrate that market would be much greater then ours if you take geography amongst other things—but even with that being the case, we have about 47 percent of that market, and Japan enjoys about 29 percent.

The point that I am making here—and I think it is one of the most compelling arguments that we have—is that wherever we have been given the opportunity to compete fairly in open and free markets we have excelled, we have dominated those markets because we have earned that right through our technology, through our marketing efforts, and through the investments we've made. But then going on to that Japanese one, we have continued to be in that low percent range from day 1.

Now, there are just a couple of points that I want to make that relate to that. [Slide.]

One has to do with quality. As background, in 1980 there was quite a bit of talk about the quality of the Japanese supplier was better than the U.S. manufacturer. I think that objectively we're prepared to say perhaps it was. I think it's also important to say that we were meeting the specifications of our customers at the time, but perhaps Japan did a better job, they met them better than we did.

But we didn't allow that to go unnoticed, we went ahead and put ahead major efforts. By 1982 this statement was made by, again, and uninterested observer, one who looked at the facts objectively, and it said: "Japan's semiconductor quality is no longer significantly better." [1]

The point I'm making is that any time the quality issue is made today I think it's a red herring. It is not a valid criticism, it is not a valid problem; that was the case, perhaps, some 5 or 6 years ago, but no longer. [Slide.]

Another point that I wanted to address has to do with the trade statistics. Since we filed the 301 there has been a lot of discussion with regard to what our statistics said versus the Japanese statistics. And the only point I want to make here is that we have been using this format for gathering and reporting statistics since 1977.

The only thing that has happened is that we have been able to get more and more people reporting into it, so that the data is more and more accurate. So, again, any criticism, any charges that are being made with regard to the trade statistics, I believe, are totally invalid. We're consistent, they are accurate, and it's the best data that's available today [Slide.]

This next chart shows capital investment. And I don't intend to spend a lot of time on this, but the point that needs to be made here is this: One of the things that we all have to be careful of is

[1] Paine Webber, Mitchell Hutchins, Inc., Dec. 20, 1982.

that we invest adequately to maintain our opportunity in the marketplace; but we also have to make certain that we don't overinvest so that we end up in a position where excess capacity begins to be a burden.

In our case it's quite a problem when that happens. We have to cut back, we do all sorts of things. In the case of Japan that's not quite true. They tend to keep that production going, and as a result end up with excess capacity pouring out into the marketplace, which in most instances, in several instances, leads to the predatory practices that we've seen.

These data would indicate that, with the investment that is being planned or currently being implemented in Japan, they could absorb an increase in the world market by some 40 percent compounded. The world market is known to grow at something in the vicinity of 16 to 18 percent.

Since they aren't going to get all of this, the only conclusion one can draw is that there is going to be excess capacity coming onstream that is going to lead to more of the predatory practices that occurred some years ago and that we've seen of late. [Slide.]

Now, the reason we need to penetrate this Japanese market goes back to a comment I made earlier. Volume drives two things, it drives costs down and it drives technology forward. If we are deprived of the opportunity to compete on an even basis with anyone in the volume arena then we're going to begin to fall behind in one or both of these areas.

For that reason we can never allow any market in this world to be unavailable to us. We have to have equal access to every market, be it Japan, the newly industrialized countries, or any other market that one can conceive of. [Slide.]

The second thing that is important—and the Senator referred to this earlier—we cannot allow any predatory practices to take place, such as he referred to with the EPROM. Because this is a copy of the actual document that Hitachi had used in promoting their 10-percent EPROM program. And in effect what it said was there was no price that was too low, they were going to take whatever business was out there and they would still guarantee their distributors a 25-percent margin.

It's inconceivable that one can run a business this way. But let me just show you the impact this has on one particular product. [Slide.]

Here's a 64K EPROM that was the focal point on that program. And as you can see, the latter part of 1984 that part was selling for about $5.50. As of the second quarter of 1985 the price was down to about $2.50. And it currently is somewhere in the vicinity of $1.

Now, our industry is aggressive and it has always been good about reducing prices. If you look back over the history, we have reduced prices on existing products by about 30 percent per year. In addition to that, we have brought new products into the marketplace that provide more performance, higher speeds, lower costs on an ongoing basis. But no one can absorb the results of that kind of predatory practice.

And as a result companies like my own have suffered severely. That market is about 20 percent of our business and it has had a

devastating impact on our ability to both generate revenues and margins during the current timeframe. [Slide.]

So as a result of these two issues—the marketplace being closed and the predatory practices—three things have happened. We've lost revenues, we've lost the economies of volume, and we face the dumping that comes from the capacity races. It was with that background that the SIA decided it was necessary to file the 301 trade action. [Slide.]

There are only two remedies that we asked for in our trade action. One, open the Japanese market to fair and free competition; and two, eliminate predatory practices in all markets so that the marketplace determines who is going to be the winner, not government policy.

Thank you.

Senator WILSON. Thank you very much, Mr. Scalise.

[The prepared statement of Mr. Scalise, together with an appendix and charts, follows:]

PREPARED STATEMENT OF GEORGE M. SCALISE

Mr. Chairman, my name is George Scalise. I am Senior Vice President and Chief Administrative Officer of Advanced Micro Devices, and I appear before you today on behalf of the Semiconductor Industry Association (SIA). SIA is an association of fifty-two members which together manufacture more than ninety-five percent of all semiconductors produced in the United States each year.

One of SIA's principal purposes since its foundation in 1977 has been to address issues concerning international trade in semiconductors. Foremost among these trade issues has been the restricted nature of the Japanese semiconductor market. Over the eight years since 1977, SIA has worked with the U.S. Government to seek greater access to the Japanese semiconductor market. SIA's member companies have also taken steps to make the sale of semiconductors in the Japanese market one of their top priorities. Yet, despite all of these efforts, the U.S. share of the Japanese semiconductor market remains about the same today -- at 10-11 percent -- as it was in 1975 when formal quotas prevented U.S. semiconductor companies from selling their products in Japan.

The Government-imposed and condoned barriers to trade which exist in Japan have caused serious injury to U.S. companies. Because less formal governmental and private efforts to resolve the problem have proven inadequate, SIA has taken the one step open to us under U.S. law to obtain relief from these foreign government practices. On

Friday, June 14, we filed a petition with the Office of the United States Trade Representative under Section 301 of the Trade and Tariff Act of 1974 as amended. By filing a formal 301 case, the U.S. and Japanese Governments' efforts can be focused on what are the essential problems in semiconductor trade, with a clear timetable for obtaining remedial action. On July 11, USTR Clayton Yeutter announced acceptance of our petition and initiation of a formal investigation.

It gives me great pleasure, Mr. Chairman, to appear before your Committee today to discuss our case. Before I proceed with a description of the SIA case, however, I would like to stress the importance of the amendments made to the Trade Act of 1974 by the Congress last year in the Trade and Tariff Act of 1984. These amendments -- particularly the addition to Section 301 of language which enables the President to take action against foreign government policies which deny "fair and equitable market opportunities" to U.S. companies -- played a critical role in the SIA decision to file this case. We hope that our case -- which is the first to be brought under the amended law -- will prove the value of Section 301 as an effective element of U.S. trade law, and will demonstrate the benefits which can be gained by a periodic revision of U.S. trade laws.

The SIA Case

In our petition, we seek two things: a share of the Japanese semiconductor market which is commensurate with

the U.S. industry's demonstrated international competitiveness which, at a minimum, should be equal to the share Japanese semiconductor companies hold in the United States market. We also seek a commitment from the U.S. and Japanese Governments to take steps to forestall the dumping of semiconductors in the United States.

We in the United States have taken every possible step to achieve a greater participation in the Japanese market. We have increased the corporate resources devoted to our sales efforts in that market. We have built production, warehousing and design facilities in Japan to support our sales there (See Appendix A). During periods of worldwide semiconductor shortages, we have increased the portion of our product allocated to our Japanese customers.

The United States Government has also been extremely helpful in working to break down Japanese barriers to semiconductor market access. When the Japanese semiconductor market was protected by quotas and tariffs, the U.S. Government negotiated their elimination. When Japanese semiconductor companies began to engage in predatory pricing practices during the 1982 semiconductor recession, the U.S. Government began serious negotiations with the Government of Japan to resolve high technology trading problems through the U.S.-Japan High Technology Working Group. These negotiations resulted in the adoption by both Governments of the High Technology Agreement and the Semiconductor Recommendations which together laid the groundwork for an improved

system of international trade in semiconductors between our two nations.

Yet we are now faced with the reality that all of these efforts have clearly failed. We face the same problems in Japan that have existed for over a decade. Although U.S. semiconductor companies enjoy a 55% share of the world semiconductor market including a majority of the European market and 46% of the market in the rest of the world, our share in Japan has remained at only about 10% despite our greatly increased marketing efforts, tariff cuts, the elimination of quotas, and major currency realignments.

Moreover, Japanese companies may be again using their protected home market to penetrate the U.S. market, selling their products at prices that violate the U.S. antidumping law. Micron Technologies, a small U.S. firm, has filed an antidumping complaint against Japan on 64K DRAMs. In another recent example, Hitachi has only recently ceased to utilize a pricing policy under which Hitachi distributors were instructed to sell a certain type of semiconductor product at 10 percent below the U.S. competitors' price, whatever price the competitor quotes -- with no mention at all of costs. In return, the Hitachi distributors were guaranteed a 25% profit. At a time when the semiconductor industry worldwide is going through its most serious recession ever, with plant closings, layoffs, and financial losses occurring throughout the industry in this coun-

try, these sorts of pricing practices compound the injury to U.S. semiconductor companies.

At the same time, the commitments made by the Japanese Government to eliminate trade barriers have been frustrated by government-imposed and supported "counter-measures" which have essentially substituted structural market barriers for the formal government barriers such as quotas and tariffs. SIA hopes the filing of our 301 case will permit both the United States and Japan to make the resolution of these problems a top priority international trade issue.

Through bilateral negotiations, we hope to achieve the same opportunities to sell in Japan that Japanese companies enjoy in this market (where their sales have risen from 7% of the market in 1980 to nearly 15% of the market by 1984). World trade in semiconductors is on the rise -- in all major regions of the world, that is, except Japan. We would like to eliminate those features of the Japanese semiconductor market that were intentionally established to frustrate trade liberalization and which have restricted U.S. companies to the role of residual suppliers in the Japanese semiconductor market.

U.S. companies clearly play a residual role in Japan. During the period of greatest semiconductor demand and shortest supply in early 1984, U.S. companies' sales in Japan rose far faster than the growth of the Japanese semiconductor market as a whole. This continued through the

third quarter of last year. As I have described, U.S. companies were willing to divert scarce semiconductor products from other markets because they had committed themselves as part of the High Technology Working Group's Semiconductor Recommendations to support the Japanese market. Because Japanese companies were unable to supply all the product they required, Japanese purchasers of semiconductors turned to these U.S. companies during this period.

As soon as the semiconductor boom began to subside, however, U.S. companies were the first companies operating in Japan to feel the effects of the slow-down. Although the Japanese market continued to grow in the fourth quarter of 1984, Japanese companies were by then able to fill all increases in domestic demand, and sales by U.S. companies actually declined. The residual role of the U.S. companies was even more dramatically illustrated by the fact that between the fourth quarter of 1984 and the first quarter of this year the Japanese semiconductor market softened very seriously and U.S. companies suffered a decline in sales twice as great as the decline of the Japanese market as a whole. The efforts of our companies during the previous period of supply shortage and the agreements entered into by the Government of Japan had no effect on our role as residual suppliers.

What are the characteristics of the Japanese semiconductor market which leave foreign suppliers in this position? They are described in detail in our memorandum in

support of our petition, but let me provide a brief overview of them.

First, the Government of Japan has protected every semiconductor end-market industry until it achieved a clear market parity with foreign producers. Because of this, Japanese companies dominate most major semiconductor end markets in Japan.

Second, the Government of Japan limited entry into the semiconductor industry to a few established end-users of semiconductors. This was accomplished through subsidies and joint research and development assistance. The result is that the same six to ten firms which are dominant in the end-use markets are also the major Japanese semiconductor manufacturers.

Third, the Japanese Government encouraged these firms to develop reciprocal interfirm trading relationships so that they would procure semiconductors primarily from each other. As a result, about two thirds of the semiconductors consumed in Japan are purchased by one of the major electronics companies from another of these major electronic companies.

Fourth, the small group of semiconductor producer-consumers are linked by multiple horizontal ties. These ties too were fostered by the Government of Japan through numerous R&D programs from which second-rank producers (and foreign companies) have been excluded. One of the purposes of these links has been to avoid the so-called "excessive"

competition and duplication of effort among Japanese firms. In the United States, such horizontal ties among dominant firms would be seen as giving rise to a substantial danger of collusive and anticompetitive behavior.

Finally, the Japanese Government encouraged Japanese semiconductor purchasers to "Buy Japanese". This pressure was continued until at least 1974. Since then, U.S. semiconductor executives have been virtually unanimous in their view that a bias persists in Japan.

The entire market access situation created by these measures is perhaps best summarized by an executive in charge of one U.S. company's Japanese operations. In response to an SIA survey of U.S. companies' experiences in Japan, he said: "Basically a U.S. supplier has an opportunity when a product is not available from a Japanese source or is in short supply."

In this environment, SIA believes only concentrated effort by the Government of Japan to eliminate those features of its market which it intentionally established to frustrate trade liberalization will permit U.S. companies to participate in the Japanese semiconductor market to the full extent indicated by our competitiveness in other world markets. In conjunction with those essential changes in the structure of the Japanese semiconductor market, we will seek commitments first from the Government of Japan to encourage Japanese semiconductor companies to abide by international trading rules dealing with dumping and second from the U.S.

Government to take prompt and effective action to enforce U.S. trade laws against actual and threatened dumping.

To put these issues into perspective, I would like to summarize for you the results of a very recent study on the impact of Japanese targeting of the U.S. semiconductor industry. The study was prepared by Quick and Finan Associates for the USTR as part of that agency's review of targeting under Section 625 of the Trade and Tariff Act of 1984. Its conclusions have been carefully reviewed by U.S. Government agencies and by outside experts.

- Because of Japanese restrictions on direct investment, the U.S. share of the Japanese market in the 1960's and 1970's was about half of what it could have been had American firms in that period been able to establish marketing and production facilities in Japan. Once established, this market position would have probably persisted. (In other words, our sales in Japan would be double their current level if investment restrictions had not existed. In 1984, that amounted to about $750 million).

- This suppression of U.S. sales in the Japanese market has a significant effect on learning curve benefits which in turn increases Japan's share of other markets, at U.S. expense.

- In the U.S. market, the estimated range for loss due to the combined effects of all Japanese targeting programs (except past restrictions on investment) ranged between ... 18 to 49 percent. (Japan's sales in the U.S. market were about $1.5 billion in 1984, so this translates into at least $270 million and as much as $750 million).

Dr. Finan's study thus finds that Japan's targeting of the semiconductor industry has had a very substantial adverse impact on U.S. firms. And this conclusion probably understates the problem significantly since the study did

not try to estimate the indirect effects of Japanese targeting of electronic equipment industries on the U.S. semiconductor industry. If highly competitive U.S. electronic equipment products had not been restricted in Japan, and Japanese producers had not been supported by their Government, the U.S. share of both Japan's and the world electronic equipment market would be much greater -- generating significantly larger sales opportunities for U.S. semiconductor firms which instead went to Japanese firms.

Conclusion

Now that our petition has been filed and initiated by USTR, SIA intends to provide to the U.S. Government whatever support is required to open the Japanese semiconductor market to full foreign participation. We hope a negotiated solution to the issues we have raised will be reached in a timely manner. We do not wish to reach a situation in which a resolution can only be achieved by unilateral actions of the U.S. Government such as those we have proposed in our petition. The only satisfactory long term solution is market access, pure and simple.

SIA remains committed to the principles of free and fair trade. We do not wish to see any restrictions imposed which would deny U.S. consuming industries adequate volumes of semiconductors which meet their selection criteria. What we seek is to have Japan assume its full responsibilities as a trading partner with the United States. Semiconductors are an area in which U.S. producers are

clearly competitive and in which we have been denied access to the Japanese market -- the second largest market in the world. Only by providing U.S. semiconductor companies with full access to the Japanese market will Japan finally have put in place a trading environment which will reflect the competitive balance between the industries of our two nations instead of an out-of-date model of a weak infant Japanese semiconductor industry in need of protection.

Thank you very much Mr. Chairman for the opportunity to testify before your committee on this subject of obvious interest to SIA and to my company.

APPENDIX A

U.S. SEMICONDUCTOR COMPANIES HAVE MADE MAJOR EFFORTS TO ACHIEVE A GREATER SHARE OF THE JAPANESE SEMICONDUCTOR MARKET

Advanced Micro Devices --

Sales subsidiary (1974). Engineering design-in capability. Distribution through Japanese distributors. Inventory available in Japan.

American Microsystems Inc. --

Joint venture (1982). Engineering design center for semi-custom products. Direct sales and sales representatives.

Fairchild Camera and Instrument Corporation --

Subsidiary (1972). Manufacturing of semiconductors in Japan. Engineering design capability. Distribution through Japanese distributors and direct sales. Inventory available in Japan.

Harris Corporation --

Sales subsidiary (1974). KK subsidiary (1984). Test operation (1985). Distribution through Japanese distributors and direct sales force. Inventory available in Japan.

Intel Corporation --

Wholly owned subsidiary (1981). Sales, testing and design center. Corporate procurement center. Inventory available in Japan. Distribution through Japanese distributors and direct sales force.

Monolithic Memories, Inc. --

Subsidiary (1975). Testing, programming, marking and shipping conducted in Japan. Inventory available in Japan. Direct sales force and Japanese distributors.

Motorola, Inc.

Sales subsidiary (1962). 1980 acquired 50% interest in semiconductor manufacturing company. 1982 purchased 100% of semiconductor manufacturing company. Head office Tokyo. Sales through direct sales force and eight Japanese distributors. Inventory available in Japan.

National Semiconductor Corporation --

Sales subsidiary (1973). Engineering design-in capability. Forty percent of total employees in Japan are engineers. Testing facilities for logic and linear chips. Sales through direct sales force and Japanese distributors. Inventory available in Japan.

Signetics Corporation --

Sales subsidiary (1975). Value-added center. Test floor. Application group. Sales offices in Tokyo and Osaka. Distribution by direct sales force and by Japanese distributors. Inventory available in Japan. All employees Japanese nationals or fluent in Japanese.

Texas Instruments, Inc. --

Joint venture for manufacture (1968). Wholly owned subsidiary for manufacture (1971). Two additional semiconductor manufacturing operations since 1971. Plants now located in Hatogaya, Hiji, and Miho. Distribution by direct sales force and through Japanese distributors. Inventory available in Japan.

57-723 O—86——4

HISTORY – 1960'S

- Quotas in Japan
- Tariffs
- MITI Controls Foreign Investment
- U.S. Companies Achieve 10% Market Share

[MITI HAS] DECIDED ON A POLICY OF HOLDING DOWN ENTRY OF NEW MAKERS INTO THE FIELD OF PRODUCING INTEGRATED CIRCUITS, REQUIRING LICENSING OF KNOW-HOW FROM TEXAS INSTRUMENTS OF THE U.S. WITH THE AIM OF STRENGTHENING THE INTERNATIONAL COMPETITIVENESS OF DOMESTICALLY DEVELOPED ICS... .

— JAPAN ECONOMIC JOURNAL, NOVEMBER 19, 1968

HISTORY – 1970'S

- Quotas; Investment Controls Phased Out
- Tariffs Reduced
- Restrictive Market Structure Put In Place; MITI Provides Subsidies, Loans
- U.S. Companies Open Manufacturing And Sales Operations
- U.S. Market Share Remains 10%

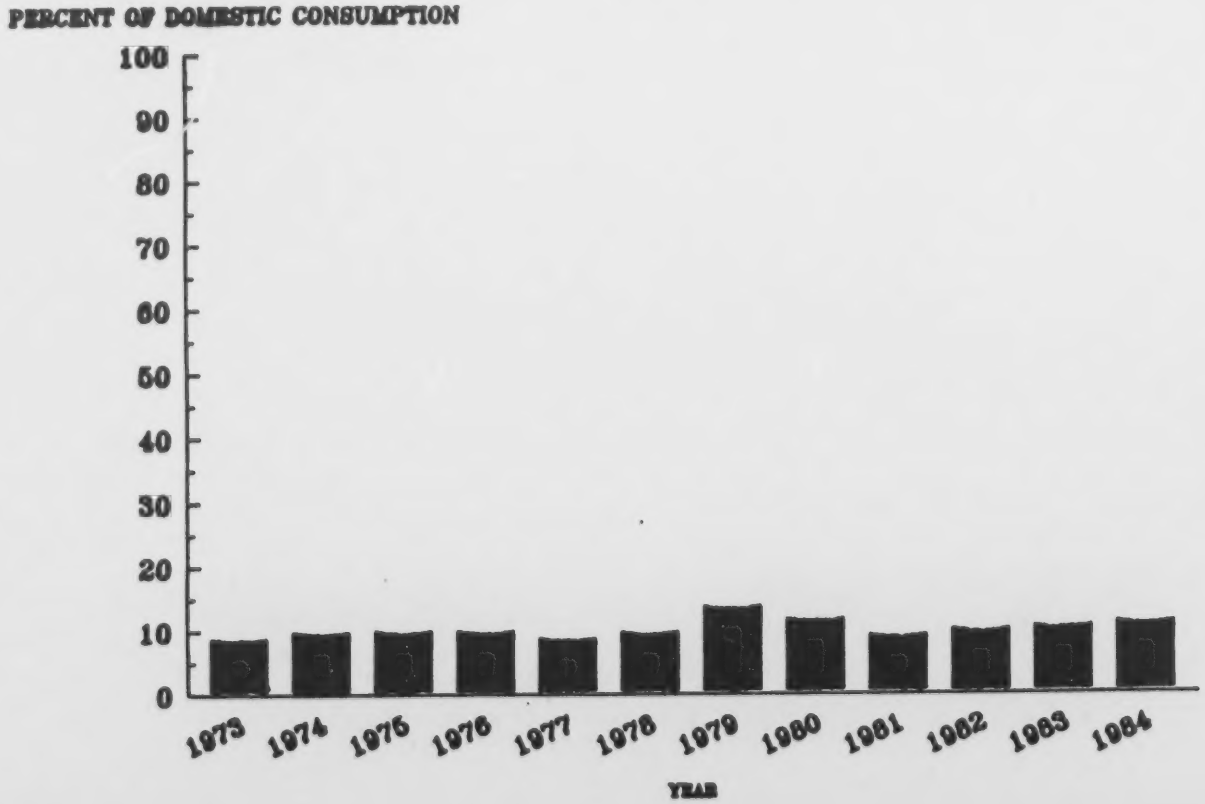
MITI WILL DIVIDE IC MANUFACTURING FIRMS INTO SEVERAL GROUPS TO SPECIALIZE IN THE RESPECTIVE FIELDS OF PRODUCTION, SUCH AS BI-POLAR MACHINES AND METAL OXIDE SEMICONDUCTORS (MOS), SO THAT A DIVISION OF LABOR WILL BE ESTABLISHED AMONG THEM ... . MITI IS PLANNING TO SUBSIDIZE THE EFFORTS FOR ESTABLISHMENT OF SUCH A PRODUCTION STRUCTURE, AS PART OF ITS COUNTERMEASURES AGAINST LIBERALIZATION.

-- NIHON KEIZAI
MARCH 15, 1973

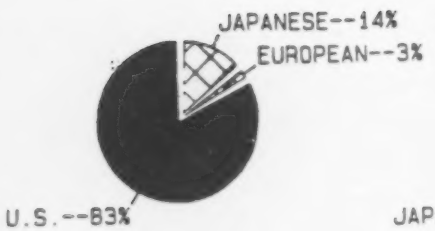
HISTORY – 1980'S

- **High Technology Working Group Recommendations: Tariffs Eliminated; Trade Encouraged**
- **U.S. Companies Expand Sales Efforts**
  - **–Manufacturing**
  - **–Design**
  - **–Servicing**
  - **–Inventory**
  - **–Japanese Sales Forces**
- **MITI R&D Programs**
- **U.S. Share In Japan Stagnant**
- **Japanese Dumping Cited**

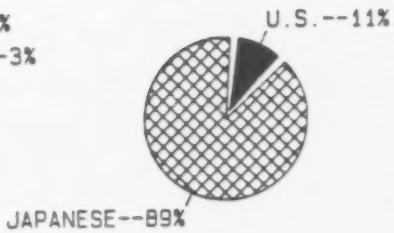
U.S. PENETRATION OF THE JAPANESE SEMICONDUCTOR MARKET HAS BEEN CONSISTENTLY LOW



SEMICONDUCTOR MARKET SHARE
1984

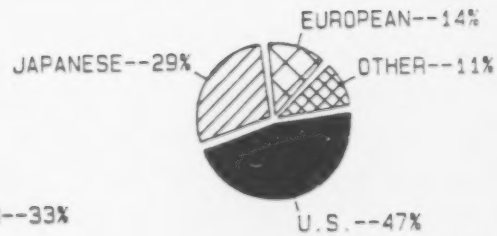


U.S. MARKET
$11.6 BILLION



JAPANESE MARKET
$8 BILLION

EUROPEAN MARKET
$4.74 BILLION



OTHER MARKETS
$1.7 BILLION

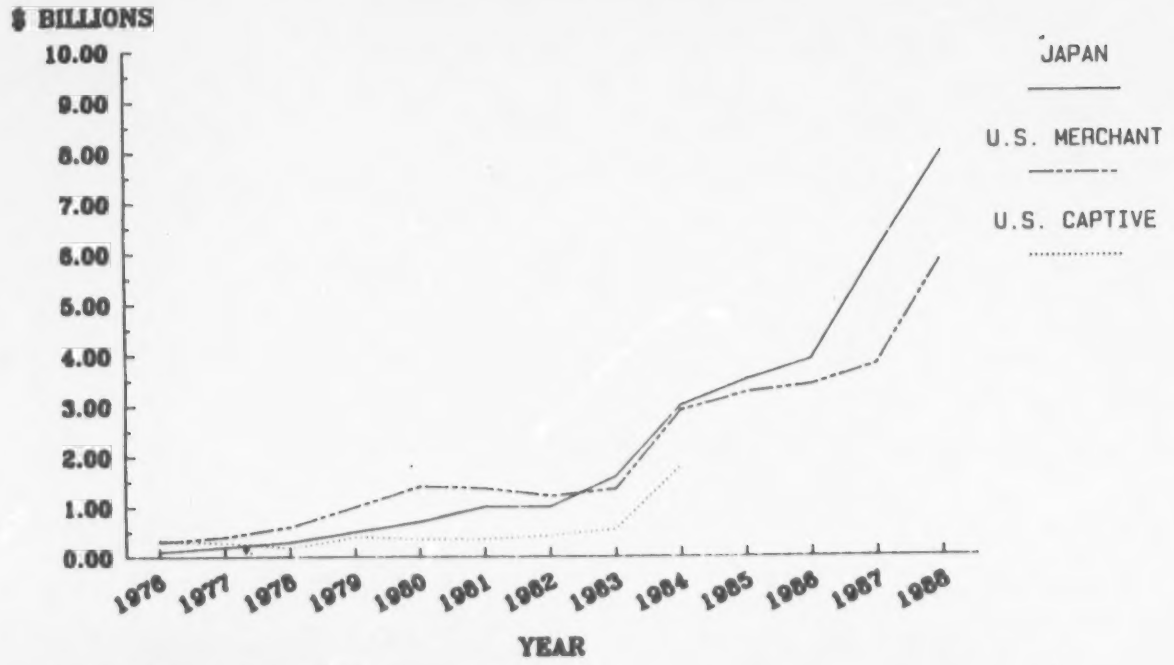
"Japan's Semiconductor Quality Is No Longer Significantly Better"

Paine Webber
Mitchell Hutchins Inc.
December 20, 1982

SIA TRADE STATISTICS

- Highly Accurate Reporting By Companies Representing Over 90% Of U.S. And Japanese Shipments
- Based On Total Available Market Concept
- Standardized Reporting Procedures
- Constant Improvements In System Since 1977
- Includes All Shipments By Companies Based In U.S. And Japan Regardless Of Shipment's Country Of Origin
- Includes Estimates For U.S.–Based Non–Participants

CAPITAL INVESTMENT



SOURCE: U.S. International Trade Commission
(1976–1978) SIA (1979–1984)
DATAQUEST (1985–1988)

NOTE: ESTIMATES OF U.S. CAPTIVE INVESTMENT
NOT AVAILABLE FOR 1986–1988

VOLUME DRIVES

- Technology
- Cost

MEMO TO HITACHI DISTRIBUTORS (FEBRUARY, 1985)

UNBEATABLE

PRICE LEADERSHIP

WE'RE NUMBER 1

40% BELOW INTEL AND AMD

15% - 20% BELOW OTHER JAPANESE SUPPLIERS

PRICE CROSSOVER

COST/BIT ATTRITION

32K - 1.6 x THE 64K

256K - 2 x THE 128K

CMOS PREMIUM SLASHED

27C64 - 25% OVER NMOS

AND HEADING FOR PARITY

WIN WITH THE 10% RULE

HN4827128, HN27256

FIND AMD AND INTEL SOCKETS....

QUOTE 10% BELOW THEIR PRICE...

IF THEY REQUOTE,

GO 10% AGAIN...

DON'T QUIT TILL YOU WIN!

HN27C64

WIN FUJITSU BUSINESS.

USE THE 10% RULE

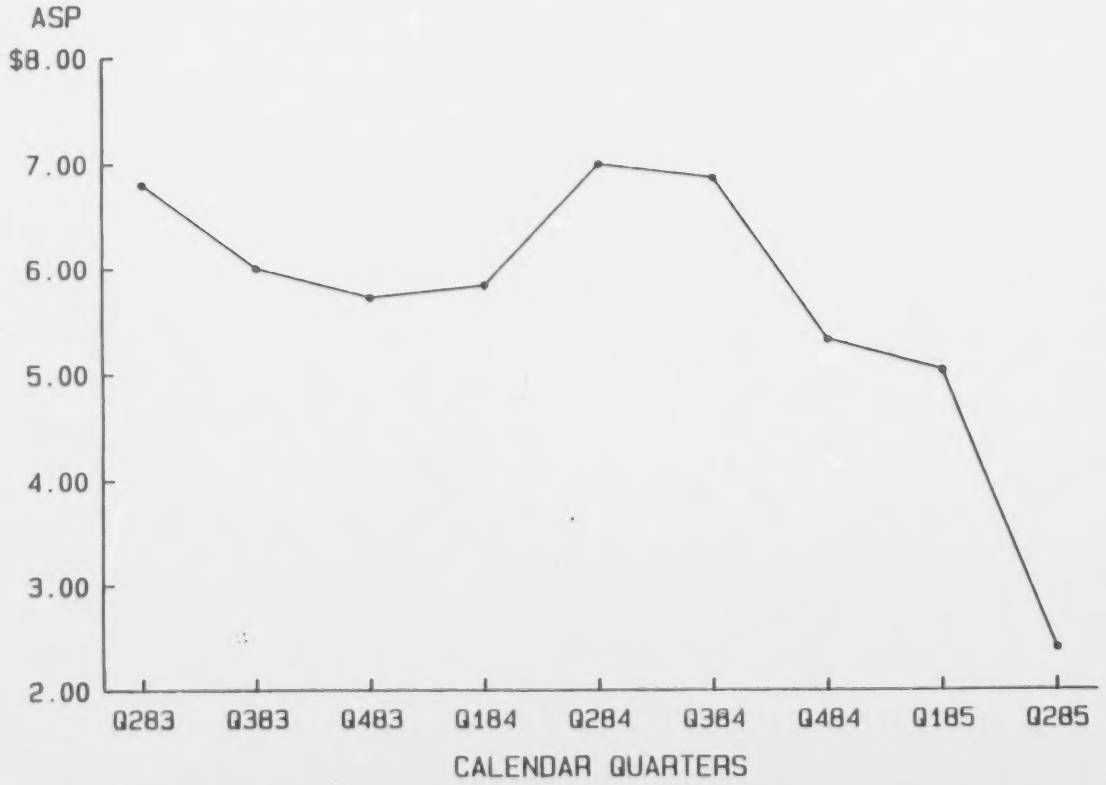
25% DISTI PROFIT MARGIN

GUARANTEED

HN4827128, HN27256, HN27C64

HITACHI EPROMS

PRICING TREND
64K EPROM



FORMS OF INJURY

- REVENUE FOREGONE
- LOST VOLUME ECONOMIES
- CAPACITY RACES AND DUMPING

WHAT DO WE ASK IN THE SIA 301 CASE?

- Open Japanese Market
- Eliminate Predatory Practices

Senator WILSON. I'm very much interested in your response to the proposals that have been made by the Japanese Government in response to what Ambassador Matsanaga described to me as their perception that we have reached a critical stage. They are suggesting that Hitachi will not be alone among those purchasing American products.

And the more significant thing actually, I suppose, is what they are promising by way of removal of certification procedures, nontariff barriers, and the reduction or elimination of tariffs with respect to some 1,800-plus items. I have in my opening statement, and in remarks made just prior to this hearing, indicated that the attitude in Congress is one of distinct skepticism because, to quote Senator Danforth, chairman of the Subcommittee on Trade of the Senate Finance Committee:

> We have heard fine sounding words before and seen little by way of results. If the United States is to enjoy any credibility we must take retaliatory steps to help ensure that this package does not prove to be as hollow as its predecessors.

This is not the first of the Japanese peace offensives. If you were advising the U.S. Trade Representative and advising Congress on the specific steps that are necessary for a redress of the grievances that you've outlined in your testimony what specific steps would you urge the USTR and Congress to follow?

Mr. SPORCK. I'd like to address that.

It seems to me that we have been in this mode of negotiating with the Japanese, getting indications of some response, and then accepting the position of, well, we are looking forward to seeing the results. And there have been no results for the past 20 years.

It seems to me that we ought to get ourselves in a position where we are ahead of that curve, such that we can say, "OK, you're taking these steps, but while we are waiting for the results these are going to be the ground rules." So that there is a reason for them to get results. They have no reason. We've been talking about this subject for the past 20 years, we have not given them a reason to get us results.

We have to put in place steps which motivate them to in fact open up their markets, to give us results in terms of the fair trade that we're looking for.

Senator WILSON. In other words, when Senator Danforth makes reference to the hollowness of the predecessor peace offensives it's your view that we have been somewhat hollow in terms of securing actual delivery?

Mr. SPORCK. We have not given them a reason to correct the problem.

Senator WILSON. So, to put things in the crudest terms, you're saying it's time that we not only picked up the club, but if need be let them know on what occasions we're going to swing it.

Mr. SPORCK. No; I think maybe you should go a step further.

Senator WILSON. Swing it?

Mr. SPORCK. There should be some application of the club. And we will remove the application when the results materialize.

Senator WILSON. I was looking for a clear statement. Thank you.

Mr. SCALISE. Let me just add that, you know, in this instance it is easy for the Japanese to solve this problem, unlike some of the in-

dustries where they have political problems to deal with—agriculture, perhaps, is one of those, a large constituency, and this presents them with some difficulties.

Here you're dealing with some 6 to 10 companies. They are the 6 to 10 companies that want to enjoy the benefits of our market. They are also the ones that are the largest consumer product there. Now, again, it's important to note that these companies, although they are producers, they only produce about 25 to 35 percent of their own needs. They buy about 65 percent.

Therefore, it's really easy for them to make the decision that, if we want to enjoy the benefits of the U.S. market we have to at least provide these folks with the same kind of access here, and to just increase their purchases. They need our products, they use our products; they just find it convenient from a competitive standpoint to limit that access while they enjoy ours.

They could solve this problem overnight. It's not one that requires a change in culture, not one that requires upsetting a political understanding, it's one that can easily be taken care of by the few companies that are involved.

Senator WILSON. Would you like to comment in specific response to the initiative which Hitachi has announced with regard to their intention of buying $400 million worth of U.S. products in the coming year?

Mr. SPORCK. Well, speaking for semiconductors, I don't understand—as part of that I understand they are sending eight people over to the United States to buy the $400 million worth of products. And I guess my reaction to that is that it's a grandstanding play, because we have all the salesmen over there trying to sell the product right at their own purchasing offices. Why don't they just buy it there instead of shipping people over to the United States to attempt the purchases?

Mr. SCALISE. As far as an impact you can quantify, as best we can determine if in fact everything happened and they followed through on the thing, it still wouldn't change the market penetration we have in Japan. Because of the market growth it would stay about the same. So there is no substance, as best we can determine, to that initiative.

Senator WILSON. In your response to my question, Mr. Scalise, you state that two things are necessary in order to redress the trade imbalance insofar as the U.S. semiconductor industry is concerned. One is access and the other is the elimination of predatory practices.

I am under the impression, both from your presentation and others, that part of Japanese targeting strategy has been to control access to their markets and at the same time control the number of Japanese manufacturers who can be involved in export as well. Recently, in hearings by the Senate Foreign Relations Subcommittee on Far Eastern Affairs, focus has been given to the Civil Aviation Treaty that was recently negotiated.

Part of the history of that treaty is that for several years Japan Air Lines objected to the creation of a new Japanese carrier. Ultimately, their objections were withdrawn. And not at all coincidentally, it seems, we are now in the possession of a translation of a Japanese governmental agency directive to the newly created

carrier enjoining upon them a duty of cooperation with Japan Air Lines.

It would appear that from the creation of this new entity there will be no loss of market share for Japan Air Lines. It seems equally clear that the remaining share of the Japanese airline market not taken by JAL will be fought over even more intensely by that new Japanese entity and the remaining United States carriers.

The concern that I have is that the Japanese Government has been involved in a variety of ways in controlling the volume of product. The comment Mr. Sporck made in his presentation about the disparate situation in financial strategy is one that we have not yet come to grips with. I would invite both of your specific comments on the difference and how you think the United States in trade policy should respond to the fact that there is an interlocking directorate in all too many Japanese industries that involves a partnership—not in the figurative sense, as we so often describe it in the United States, but in almost a literal sense—between government, specifically MITI, Japanese financial institutions, Japanese manufacturers, and Japanese marketers.

I think you can pick this industry as a good example of their targeting, but it is by no means the only one. For example, in a number of domestic goods industries, let's say, household electronic items, they have virtually captured the world market and certainly more than penetrated the U.S. market. In fact, they dominate it.

Mr. SCALISE. Let me make a couple of comments on that, because you're absolutely right. If you go back and look at the export promotion laws that were enacted in Japan—one was called Public Law 17 and its successor was Public Law 84—and you look at what was in those, it was directed at doing both of the things you're suggesting.

One is to limit the competition for a period of time to insure that the structure they were putting in place was going to succeed. The other was to provide the funding that those companies would need to make certain that from that standpoint they had the resources they would need. But perhaps most important was that after they were provided with that funding they weren't obligated to necessarily pay that back.

The obligation ran to the point of profits. If they didn't really generate profits as a result of that investment then they weren't really obligated to pay it back. So there was a very clear structure put in place to provide the incentives, provide the control and provide the finances that would allow them to go forward and succeed.

I think that has worked very well for them, there's no question about it.

Mr. SPORCK. The comparison of a financial environment between the two countries is a fundamental issue. In the United States you have industries that are driven because of the source of their funds—being equity, basically—you have industry that's driven to satisfy the financial community in what it wants. And what it wants—you can hear on the radio any day—is immediate performance. Because the reward to the investor is appreciation in stock, which forces the industry to be short term in terms of the way it looks at its operations.

In Japan the source of funding is through the banks, it is debt rather than equity. And the suppliers of debt are very long-term thinkers. They're not interested particularly in the profit margins, the price per share, the earnings per share that you're going to obtain; they're much more interested in the cash-flow of the business that you're in so you can pay their dividends.

In addition, the suppliers of debt can really plan on the risk involved in providing the money as being very minimal. Because it's clearly understood who are going to be the succeeding companies. You know, very clearly the supplier of debt to Hitachi can feel very comfortable that Hitachi is not going to disappear regardless of what the circumstances are.

So there is very little risk; there is a situation where the objective is cash-flow as opposed to earnings. So you place the Japanese industry in that kind of an environment having a tremendous advantage over the financial environment that is based upon profit performance, which is what our U.S. industry is.

Senator WILSON. Given that situation, what would be your specific recommendation? You have mentioned that you think we ought to create a Department of Trade and Industry. But I take it that you are not envisioning anything like an American MITI, that you do not see the kind of almost literal partnership that exists between government, financial institutions, manufacturers, marketers that so often is the norm in Japan?

Mr. SPORCK. No. I want my cake and I want to eat it too. I want Government help and I want Government involvement. I don't think an American MITI, given the independence of American companies, would do too well. I think that it would probably retard their effectiveness.

However, there are many, many things that can be done that would impact these structural advantages that some of our trading partners have, specifically Japan. But to focus on them and focus on making balanced decisions you must have an entity whose responsibility it is to in fact address those potential issues.

We do not have that. Supposedly, you might say, the Commerce Department is that entity. Well, the Commerce Department is pretty powerless in terms of ever doing anything, or at least they have evidenced that in the past. I really believe that the first step has to be the creation of an entity in government whose full responsibility is focusing on that issue, not just trade, but industrial competitiveness.

Mr. SCALISE. Let me take off my SIA hat for a minute and I'll put on my AMD hat, because we have thought about this a great deal as a company. And a couple of months ago at a seminar, Jerry Sanders, the chairman of AMD, made a presentation. And basically the thrust of what we suggested was as follows:

Set aside all of the arguments, if you will, about the oligopoly, the structure of the oligopoly, the countermeasures program, all of the things that may or may not have occurred if someone chose to argue those points. In the final analysis the fact remains that we haven't been able to improve our penetration regardless of the investment, regardless of the effort, regardless of the innovative products we've brought to the marketplace.

If you take that and look at it in the same way that we looked at the integration program here some years ago the conclusion was that there was a need for an affirmative action program, something that was going to solve the problem. Set aside whatever the fundamentals happen to be. Our suggestion is that their market share in the U.S. market remains constant until such time as our market share in Japan reaches parity.

Now, having said that, we want to make certain that our customers here in the United States that depend on them for supply would not in any way be put at a disadvantage, and they wouldn't be with that proposal. By the same token, it would provide them with the incentive that you talk about to get them to move forward with improving our access in Japan.

Once we reach parity then let's go, let's see how things work again for a period of time. If they stay in balance, good; if they get out of balance again, if access is denied, we have to go back and readdress the issue. But I think an approach along that line has equity, it's do-able, it's quick. I think that problem approached in that way could be solved within 12 months without question. Purchases are being made all the time, consumption is taking place at all times.

So that would be our suggestion, that we have an affirmative action program where their market share here remains fixed at its current level until such time as we reach parity in their market.

And incidentally, one final point on that. Since their market currently is an $8 billion market—at least in 1984—and ours was about $11.5 billion, we wouldn't have parity in dollar value. It would be parity in penetration. We would actually be at a disadvantage in dollar value. But we think that that as a first step would be reasonable.

Mr. SPORCK. I'd like to comment on that, because I could support that approach, too. There's one problem with that approach and that is that it does ignore some trends that are going on in our customer base. That trend is what I referred to earlier in our testimony. There is a trend toward our customer base not manufacturing product, but sourcing in Japan.

If the result of this is that we gain 17 percent of the Japanese market, and the manufacturing base in the United States disappears, where we have 83 percent, you know, we lose out in spades. That issue of the eroding industrial base, that manufacturing is disappearing from the United States, is one that we can't dance around. It's happening.

Mr. SCALISE. No; that's true.

There are other elements to this thing. You would perhaps have to take into account what we classify as "imbedded product," and that would have to be a part of this program so that you couldn't skirt the issue and find ourselves at a disadvantage as a result. But imbedded product would have to be a part of that program.

Senator WILSON. Gentlemen, we thank you both. Given your busy schedules, I know it has taken some effort to arrange to be here and we are grateful for your attendance and your very valuable participation.

We will now take a brief recess and resume in about 10 minutes.

[A 10-minute recess was taken at this point.]

Senator WILSON. Ladies and gentlemen, we will resume now with this hearing of the Joint Economic Committee. This is a hearing of the Subcommittee on Trade, Productivity, and Economic Growth on the problems faced by the U.S. semiconductor industry in doing business in and with Japan.

Our second panel provides us with two witnesses who are here to testify as to the human dimension of this problem, or more accurately, the impact in terms of the hardships felt in a very practical fashion by those employed in the American semiconductor industry as a result of the problems that we are studying today.

With us is Barbara Lane, administrative and clinical director of Human Resource Services, Inc. She has an extensive background in marriage, family and child counseling. She is involved in attempting to help those who have been victims of the displacement occasioned by the problems that we are talking about today to cope with them. There is an extensive biography here which cites a number of professional credits and credentials, but I think perhaps you will forgive me if, in the interest of hearing from her rather than about her, we get to her testimony.

Ms. Lane, thank you for being with us.

STATEMENT OF BARBARA LANE, ADMINISTRATIVE AND CLINICAL DIRECTOR, HUMAN RESOURCE SERVICES, INC.

Ms. LANE. Thank you, Senator Wilson.

Our purpose in being here today is to talk about what is happening to the employees and their families as they try to cope with the financial and emotional effects of the recession. We will show you the costs in human terms of the layoffs, shutdowns, and pay cuts that valley workers are now experiencing.

I'm going to focus on the emotional aspects and my colleague, Pat McAndrews, is going to cover the financial impact. She's a financial counselor who works for my company. We both work on employee assistance, a specialized counseling field which provides psychological counseling to industries.

We work with employees and management to help solve interpersonal problems in the workplace, as well as employee personal problems at home. I'll tell you a little bit about employee assistance programs in case you aren't familiar with them. They've been around a long time in one form or another.

Personnel and medical departments have always referred employees to counseling for personal problems—especially alcohol and drug misuse. In the 1940's, employees who had been treated or were recovering alcoholics began counseling coworkers with similar problems. Then in the 1950's and 1960's, companies established more formal employee assistance programs by having counselors onsite to do the assessment and referral out for treatment.

At first the employee assistance programs only focused on alcohol and drug problems. Over the years, though, they have evolved into a more broad brush approach, recognizing that focusing only on substance abuse ignores other problems which can be just as debilitating to the employee; for example, marital strife, problem children, financial and legal problems, stress, burnout, grief, those

kinds of human problems that people have and intrude into the workplace.

The newest employee assistance program providers are independent contractors providing a broad range of services to all employees at locations outside the workplace. And my company, Human Resource Services, is an example of this type of full-service EAP.

In the bay area alone, more than 1 million employees of industry, United States, county and city governments, school districts and unions are covered by employee assistance programs. They are an important adjunct to the companies' human resources departments.

My company—I'll call it HRS for short—has been providing employee assistance programs in Santa Clara Valley for more than 5 years. Our group includes psychologists, marriage and family counselors, and clinical social workers. All of our therapists are highly skilled licensed professionals and our services include marriage and family counseling, adolescent and child therapy, alcohol and drug treatment, stress management, financial and local counseling, and management consultation.

We also provide educational and prevention-oriented workshops to employees on a range of subjects. And we do these on a brown bag basis, like an hour at lunchtime. And they include such subjects as budgeting your money, dealing with difficult people, effective communication skills, single parenting, and coping with your aging parents.

So we try to reach employees where they are and deal with issues that are relevant to them on a personal basis so that they can be more productive employees. That's why companies contract with us. They know that a happy employee is a productive employee.

Because an employee assistance program is an employee benefit, it's easily accessible, confidential, and free. It makes it possible for employees and their families to get help before problems become a problem in the workplace. Companies save money and decrease medical insurance premiums, worker's compensation claims, and decrease absenteeism, and therefore increase productivity. A company also saves money when a problem employee is rehabilitated and does not have to be discharged.

What is happening to valley employees now? I want to talk first about those who haven't lost their jobs. In some departments in companies, layoffs and hiring freezes mean increased workloads on the remaining employees. In other areas work is decreased, people don't have enough to do.

In either case, it can be difficult to keep up morale and handle the stress of overwork or worry about losing your job. Some employees report feeling anxious about taking any time off, even when necessary, as they feel they must stay at work, visible and productive at all times in order to protect their jobs.

Employees who escape being laid off feel relieved for the moment but start worrying about the next layoff. Employees have established communication and support networks with coworkers. Layoffs disrupt those networks and employees who remain often feel lonely and isolated until they can reestablish the lines with other workers, if they can manage that.

Most companies are postponing raises and cutting back hours and salaries by 15 to 20 percent. A lot of workers in this valley live very close to the financial edge, not because they are spendthrifts but because the cost of living here is very high. Housing is a big problem for people and some spend up to 60 percent of their salaries for housing. It's not exactly what the Government tells you it is—what is it, 30 percent, something like that? A 15-percent pay cut for these people then is devastating.

The hardest hit are female single heads of households and families who have been counting on overtime to cover their bills. In general, single mothers work in low-paying clerical, secretarial, and manufacturing jobs. The fortunate ones receive child support regularly, some receive it sporadically, and most don't get any financial support from their ex-husbands. And, of course, if the ex-husband is laid off that support is cut off.

In any case, child support payments fall far short of the amount needed to take care of a family in this area. Single mothers are often forced to move out of their homes and live with family, friends, or take in roomers. The women experience considerable financial and emotional strain and have limited resources for handling these extra stresses.

Children are always affected by the stresses in their parents' lives. We are seeing more children with acting-out disorders, depression, learning problems, and sexual and physical abuse. When school starts and teachers begin to identify troubled students, we'll see even more. Our caseload traditionally goes up in October and November as the schools begin to identify troubled children and troubled families.

Many families have more than one member working in electronics. Whole families are employed by the same company. When layoffs occur, these families can be left with drastically reduced income. If both are working in electronics and both are laid off that's drastic; if one is working in another industry and is not laid off that's not quite so bad. But they still lose one income.

When times are good and overtime plentiful, some workers begin counting on overtime to cover bills. And I've had lots of stories of employees who do that and buy cars based on overtime. One of the companies we work with makes interest-free short-term loans to employees in financial distress.

They were making about two a month, oh, probably about 6 months or so ago, that recently. Now they're making five a week. Most loans are for rent and the same people keep coming back month after month, they're on this treadmill. It's really the newest version of owing your soul to the company store. You just can't get ahead. You have to pay back that loan, then you have to take another loan, and it just goes on.

Of the workers who are laid off, several groups have a particularly hard time finding other work:

Those in highly specialized jobs with limited options in other companies. There are a lot of really highly specialized technical jobs that people in some way get backed into. The only other source of a job is another electronics or another semiconductor firm. And if they're laying off your chances of finding work in the area are very slim.

Another category is employees who have marginal or poor performance records. Companies weed these people out, of course, with layoffs, but then it's harder for them to find reemployment.

Employees who, for various reasons such as age or ability, will not be able to accept or accomplish retraining. I think a retraining program needs to be looked at. I think that jobs are going to get fewer in the industry as far as people who will be available for them, jobs that will be available, and I think we need to look at some retraining programs for some of these people.

Another category that's at risk is direct laborers who were paid relatively high wages but now can't find similar-paying jobs. They have a budget and a lifestyle that is high and they can't go into another company at that high rate of pay, if they can get another job at all.

What kinds of problems are we seeing now? Increased stress in families, of course, and that's financial stress and emotional stress reflected in failed marriages. Marriage problems escalate as financial pressures build, and families must cut back on spending. That puts a strain on families.

Oftentimes families ease some of the stress by spending, going out more often, taking drives to the beach and around. If their income is cut drastically they can't do that, so therefore they're stuck at home relating to each other and fighting with each other. Children are developing stress and depression, as I said, school problems.

Another phenomenon we're seeing is adult children moving back in with parents. And the results of this are sometimes quite interesting to watch. Parents are dismayed by some of their children's lifestyles, and children have forgotten how hard it was to live with mom and dad. And there's quite a lot of stress. Our program covers adult children living at home, even if they're not dependent on their parents, because of the difficulties of children moving back into the home can cause.

Laid off workers can lose their major source of social and emotional support when they no longer have their job. This is another thing we find in this area. It's full of immigrants, not only from other countries but from other States. We're a group of people who have moved here and left our families behind.

A lot of people develop close ties to their coworkers and become dependent on these work families within the workplace for friendship, emotional and social support. That's their life, their work life, their social life. Their emotional life is tied up in a group of coworkers. It becomes quite complicated at times, especially, you know, if people are dating and then break up, that kind of thing.

But when people are laid off they lose that support group, or if their friends are laid off they lose it. And it can be devastating for some people. There was one woman who wasn't going to be laid off, she was going to be transferred to another fab area. She was so distraught she just quit. She said, "I can't leave my friends, I can't stand it if I don't see them." It's the same for her, quitting or being transferred, she lost her support group.

It's hard when you do that to marshal your ability and your resources to get out and find another job, you have to deal with the loss first.

What we're seeing here in this valley of the fast track—and I know a lot of people who feel they are on the fast track and times are good and they're going, but there's a lot who are not on that track—is a growing number of electronics workers, mostly in manufacturing and support services, who are having a hard time staying even. They're in a constant silicon shuffle between credit union and the creditors.

Along with the financial worries, of course, they have increased stress and strain on their relationships, on the families and on the children. People handle stress in different ways: Substance misuse, increased drinking, for instance, spousal and child abuse—you always find that when people lose their jobs, more spousal and child abuse—depression, anxiety attacks, failed marriages, and overspending. We'll see a lot more of this in the next few months. And, as I said before, we see an increase in the kinds of cases involving children in the fall when school begins again.

That finishes my statement.

Senator WILSON. Thank you very much, Ms. Lane.

Pat McAndrews holds a master's degree in psychology from San Jose State University and has been involved as a staff therapist, and has given counseling and family assistance. Presently she is, as Ms. Lane earlier noted, an employee assistance counselor at Human Resource Services, Inc., providing employee counseling.

She has been invited here today to tell us about the financial stress that has produced many of the emotional problems which Ms. Lane noted in her testimony. Welcome and thank you for being here, Ms. McAndrews.

STATEMENT OF PAT McANDREWS, FINANCIAL CONSULTANT, HUMAN RESOURCE SERVICES, INC.

Ms. MCANDREWS. Thank you, Senator Wilson.

Many of the things I want to say basically augment what Barbara Lane has already said. The first thought that occurred to me when thinking about what I want to say today is that I don't want to just talk about a new problem that's been created in our valley as a result of financial problems in the computer industry.

The problem already existed. What has happened is that, with trade problems and all that has gone on to create layoffs and financial problems, the financial impact of all of that has been exacerbated. The problem already existed.

I think that's for many reasons. One reason is because I believe that our area has really been touted as the area where the good life begins; fast track, but the good life. Many of us find ourselves in middle-income families and have been told that in this valley it's very easy to live a good life. We make good salaries and therefore we're entitled to the fruit of our labor.

Well, we do believe that. Yet in actuality it seems like we're finding more and more on a daily basis that that's becoming less and less true. When we look at what we spend on a monthly basis just for housing, as Barbara Lane has said, 60 percent is not uncommon at all, sometimes more. We find that we really do not have the money that we think we have. Our annual salary sounds good, but when we really break it down it really isn't quite so good. Not in

comparison with the costs of living in this valley. We think we're doing well, and we're not.

Most of the people that I see are really living from a paycheck to a paycheck. One of the things that has happened in the semiconductor industry is, with the many benefits such as overtime and being able to cash in sometimes our vacation pay or getting bonuses if our company does well, we find that we tend to rely on that money for our daily living.

And, as many of your may know, that is really a financial error to do that. We don't plan to live on our base salary. So what happens is we have many people who have been living for years and cutting the fine edge and using their bonus check or using their overtime to make ends meet, sliding by most of the time; also increasing their debt without actually paying much attention to that.

So what happens is, when we're living on the fringe already and not willing to accept the reality of the fact that our income may not go as far as we'd like to think it does, that when we have a 10-percent, 15-percent, or 20-percent cut in our salaries or our benefits we find that there is going to be an impact.

Now, we're seeing that there is a timelag of approximately 3 months, sometimes as much as 6 months, before we actually really do feel the impact of what has happened. Many of you may have seen that if you were laid off from a job, or you lost your job, or are in transition, or have a change in your income.

The first month is not too bad, you can really get by, you stretch here and you make a change there and you make ends meet. The second month is still OK. By the third month you really start feeling the impact of your change in economics.

As a result of that a lot of what has been happening in this area is relatively recent. And so many of the people that I am seeing have not totally felt the impact. There's another reason for that as well.

At this point I think I want to really compliment the companies and the financial wisdom that they have used in trying to deal with the problem. They have been most generous in many cases in trying to figure out ways to lessen, at least for the short term, the impact on their employees. I'm very, very impressed with what has been done.

Employees have been allowed to cash in some of their benefits, they've been allowed to take vacation pay, they've been allowed to do various things which minimize the impact on their checks. So that kind of thing has been happening now for a few months as well. And so, again, we're not yet seeing the total impact of what is going to be happening. It will be coming soon, however.

Another problem that we have is that most people who have reasonably good jobs in the semiconductor industry find that they may receive in the mail on a regular basis credit cards—sign here and you have $3,000, $5,000 worth of credit, signature only, no problem, sign here and charge. And what has happened, of course, is that we've used those.

As probably anyone in this room can relate, on a month when we don't quite have enough money to get by what do we do? We bring out our charge card and use that. What has happened, and it's been documented, in this area is the families who have come in re-

questing financial assistance in the last year alone have increased their financial debt as a family over $1,000 just in 1 year. That's the average figure.

Out of 1,300 families in this area that are receiving some financial counseling to handle their debts they alone have almost an $8 million debt, just those families. That's a lot, a lot of indebtedness. And a lot of that comes from, you know, getting credit too easy.

Also there is very little education on what is financially proper to do, what is good planning, what is the appropriate amount to spend. Budgeting is a very bad word. And so many of us are quite ignorant on how to actually manage our family finances and really find that we're doing it blindly and don't really realize it until we find that there is no money for anything.

Then with this setting of overspending, living on the fringe, using your overtime to buy groceries, using your bonus check to make your car payment, we find that we get the layoffs and the cutbacks and pay cuts. What has happened?

So far—and as I said before, we really haven't seen the effects yet—we're finding that people are trying very hard to be creative in dealing with this. There is an incredible amount of stress that we're seeing in indirect ways, as Barbara Lane made mention to. But there is an incredible amount of creativity.

Young people are moving back with mom and dad. That does create its own problems, but is financially feasible to do. We're seeing lots and lots of people living together, doubling up. We're seeing couples taking in a boarder in their extra room. We're seeing many different ways of trying to cope, because, again, the housing is probably one of the biggest problems and the hardest thing to afford.

However, that in itself does not handle the problem, it merely buys some time for us to cope until the problem can be solved.

In my financial counseling practice, I have seen in the last 2 months a 30-percent increase in people requesting counseling. Consumer Credit Counselors, which is a nonprofit organization that provides a service like I provide for Human Resource Services for the general public, has had a 200-percent increase in the past 6 months of requests, for people requesting financial counseling. The problem is there and it has barely begun.

What we're doing is trying to teach people how to better manage their finances and all the various kinds of efficient planning and budgeting that can be done to bide our time. At this point in time, I'm not really qualified to comment on what's going to happen down the road with the industry. Hopefully, there can be some positive things that will be happening soon that will help alleviate some of the problem.

But even at present, what we're seeing is that many people are really feeling the effects; and not just people in the semiconductor industry. I'd say at this point probably groups that are harder hit are people who live on the fringe or use fringe industries: Car dealers, machinists, people that have small businesses, people who have some sort of business that relates to the semiconductor industry. They are already very much feeling the effects of the changes that are happening.

And, again, the industry is feeling it as well. We then have a ripple effect. And, as you know, from our knowledge of economics that ripple effect is a very dangerous thing to get going to any large degree. It's very, very likely that we could have a recession and the entire valley, of course, would be affected. This is not something that's just a problem in a small area.

And, of course, once it hits our valley in a greater degree the effects will be felt nationwide, and perhaps even worldwide.

As a result, we do see lots and lots of family problems. I don't think I have yet seen a financial problem that was purely a financial problem, I don't think there is such a thing. We see all of the concomitant family problems and stress-related and medical problems that go with the stress of finances. It doesn't happen alone.

A problem that I see that I think is going to be happening, too, is that many companies in trying to cope with what is going on have found that the best way to do that is to cutback benefits. And then, again, what happens is services like financial counseling can get restricted or cut off completely.

Then the intermediary kinds of things that we are able to do, and can do, are no longer available. And then the problem again is exacerbated. So we need to work very hard on trying not to eliminate the kinds of intermediary sorts of things that are needed to be done to alleviate some of the problem.

I have one recommendation that I would like to make. In doing my work many of the people that come in at this point in time I feel I can help and be very effective in changing patterns and educating them and helping them cope with this temporary problem.

There is one group that I am not very effective with that I think probably will be growing and could be very significant in measuring the overall impact of what is going to be happening in future months. Because, as I said, it's the future months that are really going to determine the economic impact here. And that is the group that is already living beyond its means, they have already extended their credit, they may already be in great trouble.

This group, there is very little that I can do for them. And, therefore, what happens is they cannot get a loan, they cannot rely on family or friends or people to help them. The problem merely just gets worse and worse. We cannot get them out of this situation.

So what I would like to recommend would be some sort of Government intervention or some sort of program that might be able to have special assistance for these groups that are going to be hard hit. And perhaps low-interest loans or programs where their credit rating is viewed a little more liberally in helping them.

Because I feel, again, if this group is not helped then we have that compound effect and all of us will feel the effect much greater. So some sort of loan program, just like we do when we have disasters, for people to try and help alleviate the problems would be most beneficial.

Thank you very much.

Senator WILSON. Thank you very much, Ms. Lane, and thank you very much, Ms. McAndrews.

Let me say that I think you have painted a picture of the kind of hardship that has been occasioned by what is not at all an academic problem to those suffering the loss either of employment, or the

loss of benefit, or reduction in pay. I have just a couple of questions, because your testimony has been very good and very clear.

You indicated that in the past 2 months your own personal workload in terms of financial counseling has gone up some 30 percent. Then you made reference to some other counseling entity, and I believe you said that in the past 6 months their workload had gone up some 600 percent?

Ms. MCANDREWS. 200 percent.

Senator WILSON. 200 percent.

Ms. MCANDREWS. In 6 Months.

Senator WILSON. And what was that entity?

Ms. MCANDREWS. Consumer Credit Counselors.

Senator WILSON. I see.

Ms. Lane, when you are attempting through your assistance program to deal with the different problems that you have described, how many of those would you describe as financially created? How many of the people that your are seeing for various problems, would you estimate you might not otherwise be seeing were they not experiencing some kind of financial stress and the emotional stress that accompanies it?

Ms. LANE. That's hard to answer, because it's like the chicken and the egg. But to make an educated guess about it, I'd say about 25 percent of the people really are—pretty much if they got their financial situation squared away they could handle the other things. And that may be low. But I don't see all of the people who come through my company. And, you know, I think that's going to increase.

Senator WILSON. What is the occupational level and the income level of the majority of people that you're seeing, and what spectrum does it cover?

Ms. LANE. The spectrum covers everybody within a company from the lowest paid worker to the highest paid, to the president. Everybody is eligible. The spectrum, we see mostly low- to middle-income people for counseling. And their jobs range anywhere from vice presidents to the manufacturing people and support people.

But in that, the middle jobs—middle management, secretarial, the clerical—we see mostly those people. Manufacturing and then the upper management are out at the ends of the curve.

Senator WILSON. On a related note, you have estimated that a number of the people really came to you because of a finacial problem that would not otherwise have produced the stress. The second question I have is: Do you have any idea how many of these people are encountering problems of this kind for the first time? Is there any analysis that you do that indicates which are cases of first-time problems, as opposed to people with chronic problems?

Ms. LANE. Ms. McAndrews probably can answer that a little bit better than I can. I know from when I talk to employees they come in and they say, "Oh, we've been through this before, I've been in semiconductors for 40 years and we always go through this and I just kind of cut back a little bit and I weather it."

What they're saying now is, "Gee, whiz, it's time for it to stop, it's time for the up curve and it's not happening and I can't weather it as well."

I think Ms. McAndrews should answer as to whether there have been repeat problems.

Ms. MCANDREWS. There certainly are.

And I think that ties into what I was saying, that the problem was already there. But what I'm seeing is an intensification of the problem. And I would say at least 20 percent of the people that I see have had some sort of difficulties before.

But I would say, again, the flip side of that is that a good 80 percent are coming in for the first time. And some of those people have been in the industry for a very long time and have been able to manage their finances and their stress.

Senator WILSON. From which we might reasonably infer that what they are facing now is of a quality and a quantity different than simply prior occasional cyclical hardships.

Ms. MCANDREWS. Yes; there are always those that are going to have those problems. But I think this time we're getting a new group coming in that are being affected.

Senator WILSON. Well, I think your testimony has made very clear the mood and the nature of the problem and that is something that I think we needed to make a part of the record. I think that it is essential that there be a human dimension to this inquiry and that we understand what the impact is on those whose jobs are threatened by the kind of market closure and the kind of predatory practices that can in fact spell not just the statistical reduction in profits and sales but a very severe increase in your own case load and the kind of human suffering that that represents.

So we're very grateful to you for being here, as well as for the efforts that you make to help people. And I can only hope that it won't be too long before there will be a change. It's our purpose in conducting the hearing to determine how best the Congress may assist or how we may give guidance to the administration in making changes in policy that will not lead to protectionism but will give the kind of reasonable assurance—job assurance, income assurance—that will occur if in fact those problems of market closure and predatory pricing can be not just noted but dealt with.

So thank you very much, both of you, for being here today. It has been of great value to have your testimony in our record.

We will now adjourn this hearing with thanks to these witnesses and Mr. Sporck and Mr. Scalise. We are adjourned.

[Whereupon, at 4 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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